DOCUMENT RESUME

ED 125 595 95 IR 003 682

TITLE	The Appalachian Education Satellite Project Final Report.
INSTITUTION	Appalachian Education Satellite Project, Lexington, Ky.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	[76]
CONTRACT	NIE-C-75-0001
NOTE	377p.; Project Information Series; For a related document see IR 003 681
EDRS PRICE	MF-$0.83 HC-$20.75 Plus Postage.
DESCRIPTORS	Career Education; *Communication Satellites; Cooperative Programs; Depressed Areas (Geographic); Educational Improvement; *Educational Technology; Educational Television; Elementary School Teachers; Elementary Secondary Education; Experimental Programs; Higher Education; Information Systems; Inservice Programs; *Inservice Teacher Education; Instructional Media; Instructional Programs; *Interagency Coordination; Interstate Programs; *Program Descriptions; Program Evaluation; Reading Instruction; Resource Centers; Rural Education; Secondary School Teachers; Teacher Education; Telecommunication
IDENTIFIERS	AESP; *Appalachian Education Satellite Project

ABSTRACT

The first section of this report describes the objectives, project organization, and program of the Appalachian Education Satellite Project. The second section describes the resource coordinating centers and their seven missions: reading course development, career education course development for K-6 and 7-12, four-channel audio program development, television production and broadcasting, information systems, and evaluation. Two documents are included in the appendix to the second section: one describes the four-channel audio component of the project, and the other provides samples of input and documents from the information systems project. The third section describes the operation and function of the five regional education service agencies which cooperated in the project. Project accomplishments are summarized in the fourth section, and possible future developments conclude the report. (CH)

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ED125595

THE APPALACHIAN EDUCATION SATELLITE PROJECT
FINAL REPORT

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Education

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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INTRODUCTION

In 1965 Congress passed the Appalachian Regional Development Act establishing the Appalachian Regional Commission. The Congressional mandate to the Commission was to aid the Appalachian states in the development of new programs and approaches to improve their economic development. This included the goals of reducing unemployment, improving education, and in general, creating the conditions within which sound economic development could take place. Further, the Appalachian Act calls on the Commission to seek assistance from, and to coordinate Activities with other Federal agencies and their programs for the benefit of the Appalachian people. This activity of Federal resource sharing and coordination is well demonstrated by the Appalachian Education Satellite Project (AESP).

The broad objective of the AESP was to demonstrate the use of educational technology as a means of strengthening existing local education programs in Appalachia. Focusing on in-service education for the improvement of classroom teaching skills, teachers at 15 remote sites in Appalachia received graduate credit for the successful completion of courses broadcast via a satellite communication network. In utilizing this network, teachers were also given the opportunity to develop instructional units from material available from widely diverse sources, as well as, to participate in computer-based programs.

In summation, the experiment generated information for the design of future large-scale resource sharing arrangements that cut across local and state boundaries and which utilize sophisticated communication media for the delivery of various educational services in remote locations.

II. History

In early 1968 the Appalachian Regional Commission received a grant from the U.S. Office of Education to review the educational needs of Appalachia. As a result of this grant a two-year study by Arther D. Little and Company was undertaken which included a survey of over 32,000 Appalachian teachers. The resulting Appalachian teacher profile and related need assessment study indicated in-service education to teachers, especially in the areas of reading and career counseling, as being the priority educational needs for Appalachia.

Later in 1971, the Appalachian Regional Commission was approached by the National Center for Educational Technology to ascertain its position with respect to participating in a joint Health and Education Technology (HET) experiment utilizing the ATS-6 communication satellite to be launched by NASA. Partly in response to this question, the Commission, in November of 1971, convened an Educational Telecommunication Advisory Task Force comprised of selected representatives for higher education, instructional media, and educational broadcasting to assist the Commission in prioritizing its educational objectives and to suggest ways in which telecommunications might be used to help achieve these objectives within the region. In addition, the Commission requested and received a grant from the U.S. Office of Education to investigate the feasibility of utilizing satellite telecommunications for educational services in Appalachia. This grant resulted in a substantial report prepared by the Center for Development Technology, Washington University which outlined existing and potential telecommunication services for the Appalachian region.

Based on the results of the two aforementioned studies and recommendations by the Telecommunications Task Force, the Commission, in May of 1972, began preparation of a Proposal to the National Center of Educational Technology requesting participation in the HET experiment. The proposal outlined in-service education in the teaching of reading and career education as the recommended services and included a description of the structure to facilitate their dissemination which utilized the Commission funded Regional Education Service Agencies (RESA) and a Resource Coordinating Center (RCC) later to be established at the University of Kentucky.

After long and arduous negotiations, the Commission's proposal was accepted. Beginning in May, 1973, the Commission began the pre-planning phase of the AESP. During this phase the funding responsibilities of the HET experiment were transferred from NCET to the National Institute of Education (NIE). Further, the Commission met with representatives of the 16 Appalachian Regional Education Service Agencies who responded to the Commission invitation to participate in the project. Discussions were held to determine their geographical locations, available technology, programs in progress, possible credit transfer from local area universities and teacher in-service accomplishments. Based on this information an outside panel of experts designated five of the sixteen as the main sites to participate in the project. These RESA's were located in New York, Maryland, Virginia, Tennessee and Alabama. Additionally, the Commission under NIE supervision, developed a Request for Proposal for the project's Resource

Coordinating Center and convened a pre-bidders conference for the purpose of addressing the procedures and program elements specified in the RFP. This conference was attended by 14 institutions of higher education. Seven proposals resulted from the solicitation and were sent to a panel of outside experts. Site visits by this panel and the Commission staff served to confirm and amplify results of the proposal reviews. After budget negotiations with the two top contenders, the University of Kentucky was recommended by the Commission and approved by NIE as the AESP Resource Coordination Center.

III. AESP Education Objectives

The immediate educational objective of the AESP was to improve the effectiveness of the classroom teacher, thereby upgrading the quality of reading and career-education instruction available to Appalachian students. The question to be resolved by the AESP and similar projects was, can the linking together of existing organizations, like the Regional Educational Service Agencies (RESAs), and communications satellites result in more effective and significant in-service teacher training.

The educational ramifications are overwhelming when the project is viewed as a demonstration of the feasibility of producing high quality, revenue-shared courses in multiple disciplines for cross-state delivery via satellites. More specifically, the AESP, as an experiment in the applications of space-age technology to education:

1. explored the feasibility of using fixed-broadcast satellites and linking terrestrial communications systems to deliver educational services;

2. examined the effectiveness of the instructional sequence of televised lecture, audio questions with immediate feedback, ancillary practice activities, and review testing;

3. broadened understanding regarding workable ways to organize trans-state projects conceived to solve common problems when greater economy and quality is promised by large-scale delivery and resource pooling;

4. developed procedures for preparing software for heterogeneous audiences and various hardware systems;

5. demonstrated the feasibility of developing central computerized information systems for delivery via satellite;

6. demonstrated the feasibility of utilizing future communications satellites with increased broadcast channels, and air time, in order to increase course options and make quality education equally accessable to all parts of the country.

IV. AESP Project Description

The Appalachian Education Satellite Project (AESP) had a number of distinct levels of growth and operation. The first phase, which was described in the history and included the site selections might well be labeled the Pre-planning Phase. The remaining phases have included planning, development, operation, and evaluation. As one might suspect, this program had many overlapping and concurrent activities within these phases. An overall project description is thus best described by outlining the organization structure, program operation and content; the project accomplishments; the apparent program impact and finally what possibilities lie in the future. The following sections will address these topic areas.

Organizational Structure

The basic organizational structure of the AESP project can be divided into three main components: the Appalachian Regional Commission (ARC), the Regional Education Service Agencies (RESA) and the Resource Coordinating Center (RCC).

ARC

The Appalachian Regional Commission was responsible for the overall development and management of the project. In meeting this responsibility, the Commission worked in a complex framework of interagency participation to achieve the programmatic and technical objectives of the project.

In establishing and insuring that the project's programmatic objectives were met, the Commission staff maintained a close working relationship with the National Institute of Education. This was accomplished through weekly contact and reporting, as well as, through a continuous series of site evaluations, by both an in-house NIE evaluation team and by the Educational Policy Research Center at Syracuse University.

In pursuit of the technical objectives of the experiment the Commission staff maintained working relationships with a number of additional agencies. In designing, implementing and operating the AESP communication network, close coordination was maintained with the National Institute of Education (plans review), Department of Health, Education, and Welfare (terrestrial system), National Aeronautics and Space Administration (space system and vehicles), Federation of Rocky Mountain States (engineering, installation, and maintenance) and the other experimenters on the ATS satellite (scheduling).

Returning to the project's other main components, the implementation of the education experiment conceived by ARC was the function of the Regional Education Service Agencies and the Resource Coordinating Center.

RESAs

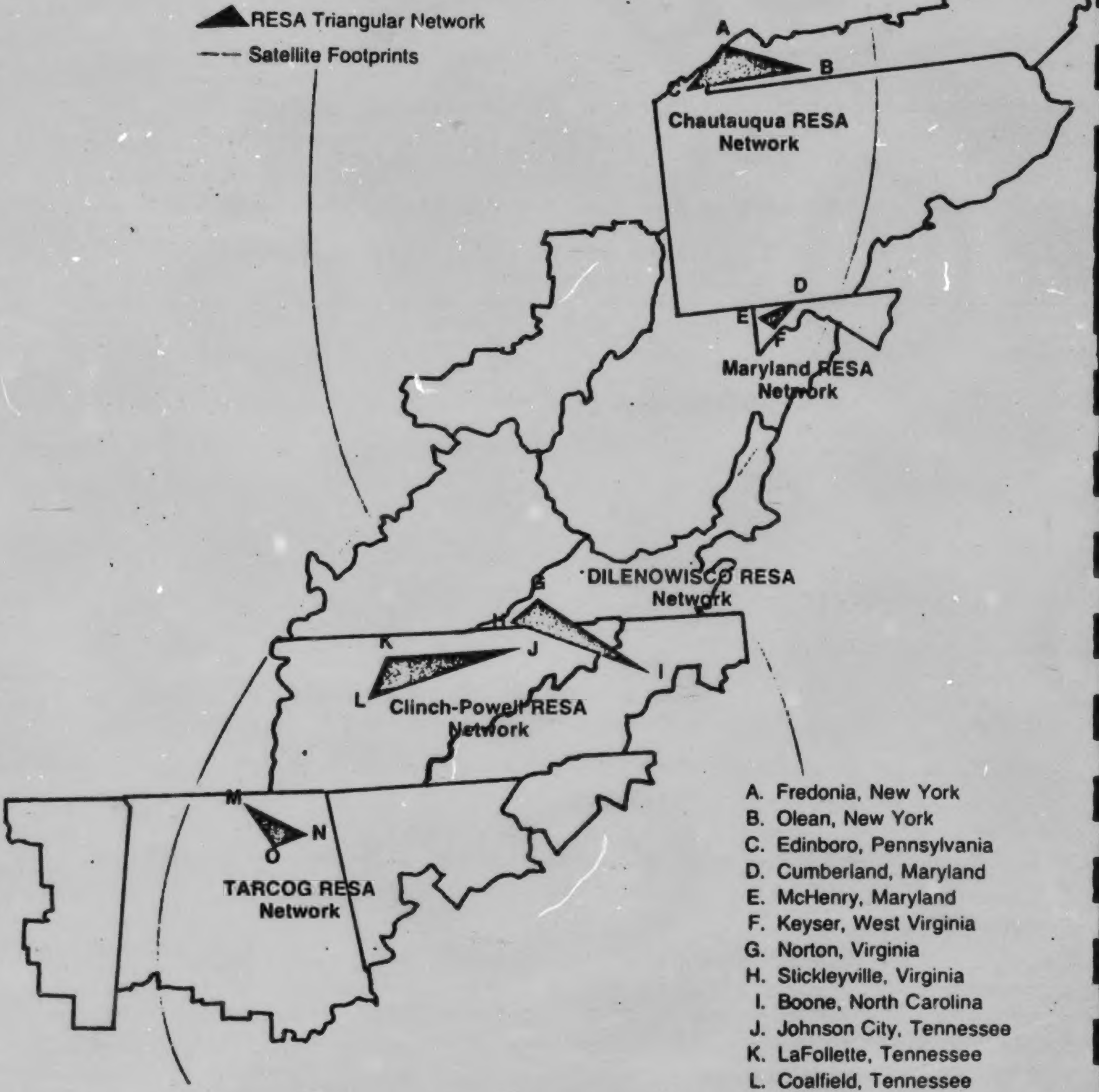
The Regional Education Service Agencies (RESAs) are best defined as confederations of school districts, sometimes called educational cooperatives, regional education service centers or cooperative educational service agencies. Before the conception of the AESP, New York and Pennsylvania had established networks of RESAs. Kentucky, Tennessee and West Virginia had permissive legislation authorizing the establishment of RESAs, and North Carolina had regionalized organizations similar to RESAs. School districts in the 48 Appalachian counties participating in the AESP have joined together to form RESAs for participation in the project.

Initially, five lead RESAs and up to two associate RESAs per lead RESA were approved for participation in the AESP project. During on-site surveys three antenna locations per lead RESA were selected and thus the 11 participating RESAs with the 15 receiving sites, where class sessions were to occur, were established. (See Figure 1 for participating sites).

It was the responsibility of the RESAs to coordinate project related activities at the local level. To be specific, during the project, the RESAs:

1. developed administrative structures for the management of project activities;
2. arranged for local universities to grant graduate credit for teachers participating in the AESP courses;
3. staffed a Project Advisory Council with teachers, administrators, representatives of local boards of education and representatives of local institutes of higher learning;
4. gathered information on local programs and audio/visual equipment, to assit in the development of pre-service, site-utilization, teacher-selection, administration, engineering, and evaluation plans;

The Appalachian Region with the Five RESA Triangular Networks and Approximate Satellite Footprints


RESA Triangular Network
Satellite Footprints
A
B
C
Chautauqua RESA Network
D
E
F
Maryland RESA Network
DILENOWISCO RESA Network
G
H
I
J
K
L
Clinch-Powell RESA Network
M
N
O
TARCOG RESA Network

A. Fredonia, New York
B. Olean, New York
C. Edinboro, Pennsylvania
D. Cumberland, Maryland
E. McHenry, Maryland
F. Keyser, West Virginia
G. Norton, Virginia
H. Stickleyville, Virginia
I. Boone, North Carolina
J. Johnson City, Tennessee
K. LaFollette, Tennessee
L. Coalfield, Tennessee
M. Huntsville, Alabama
N. Rainsville, Alabama
O. Guntersville, Alabama

Figure 1

5. consulted with the ARC and the RCC on program and scheduling guidelines and;

6. in general, provided the liaison between the local community and the ARC on matters concerning the AESP.

RCC

The Resource Coordinating Center (RCC) is the institution which had responsibility of producing the project's software and participating in the day-to-day operation of the project.

The RCC employed a management by mission concept for the programmatic and procedural role in the AESP. The following breakdown by mission illustrates how the RCC organization units were based on its related objectives:

1. The Reading Component:
    a. developed two courses in reading instruction for teachers of students in grades K-3, and 4-6;
    b. developed 5 live, interactive seminars for teachers;
    c. selected and developed supplementary instructional materials (ancillary materials) to augment the television and four-channel audio instruction.

2. The Career Education Component:
    a. developed a course of 12 pre-taped programs in career education for teachers of students in grades K-6 for broadcast in the summer of 1974;
    b. developed 4 live, interactive seminars for elementary teachers in the summer of 1974;
    c. developed 16 live, interactive seminars in career education for teachers of students in grades 7 through 12 for broadcast in the fall of 1974;

d. selected and developed for the career education courses supplementary instructional materials (ancillary materials) to augment the television and four-channel audio instruction.

3. The Television Component:

   a. produced the televised reading and career education courses and;

   b. broadcast the televised reading and career education courses.

4. The Four-Channel Audio Component:

   a. developed a series of four-channel one-way audio programs in reading and career education for broadcast to teachers participating in the AESP courses.

5. The Information Systems Component:

   a. developed combination of computer-based and manual systems for storing, retrieving, and delivering information and instructional materials in the areas of elementary reading and career education to the teachers enrolled in the AESP courses;

   b. supplied the 1,200 teachers in the reading and career education courses with computer-managed instructional materials.

6. The Evaluation Component:

   a. designed and implemented formative evaluation strategies;

   b. designed and implemented summative evaluation strategies.

7. The Management Component:

   a. developed a RCC management system;

   b. coordinated and managed RCC project activities and;

   c. established a Planning and Development Committee, composed of management, content and field personnel, to assess mission progress against project and mission guidelines.

The primary responsibility for day-to-day maintenance of each of the components was delegated to the appropriate mission director; and within this framework the objectives of the project were translated into the finished products. (Figure 2 depicts the organization of the AESP).

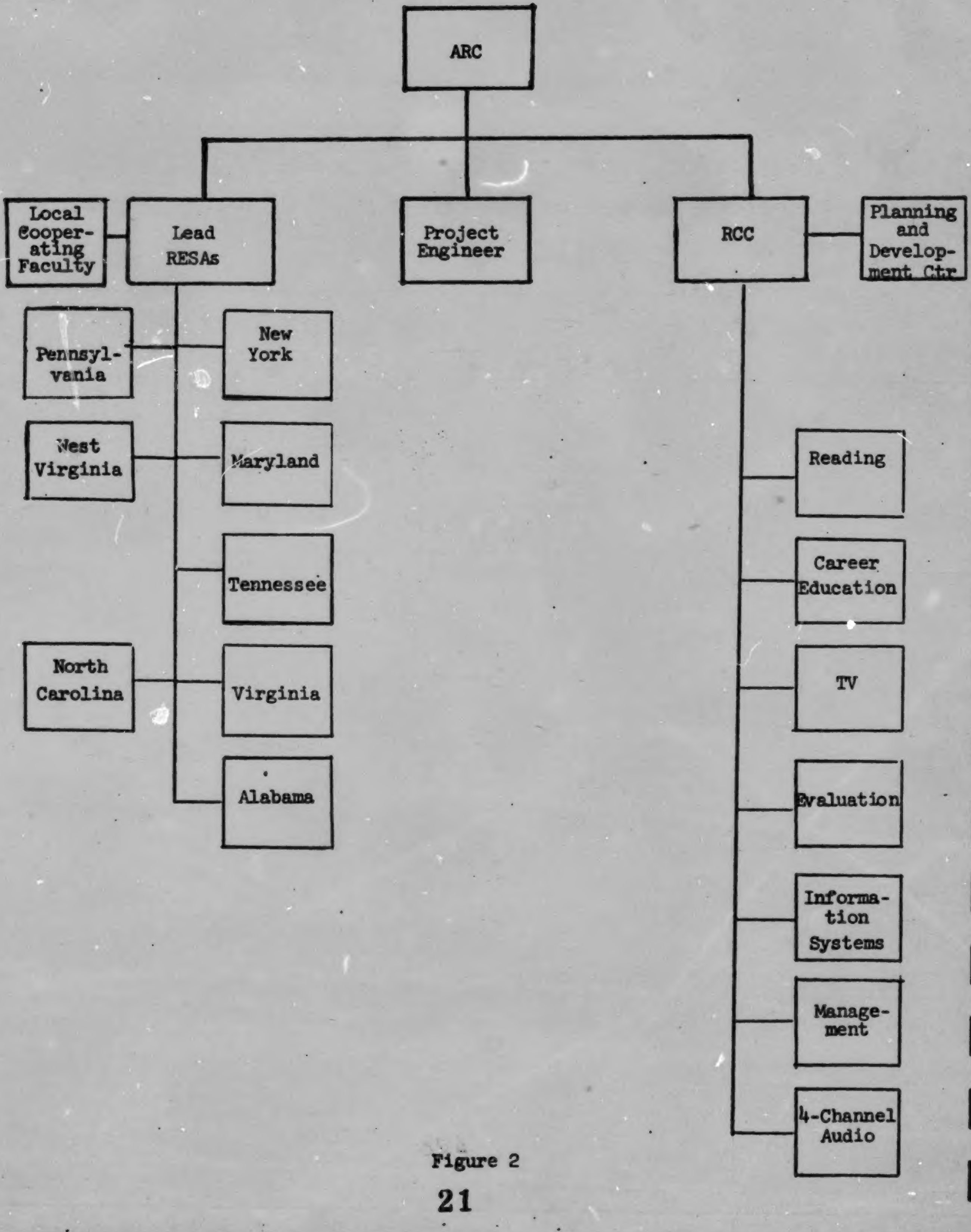

ARC
Local Cooperating Faculty
Lead RESAs
Project Engineer
RCC
Planning and Development Ctr
Pennsylvania
New York
West Virginia
Maryland
Tennessee
North Carolina
Virginia
Alabama
Reading
Career Education
TV
Evaluation
Information Systems
Management
4-Channel Audio

Figure 2

V. AESP Network Configuration

In 1966, the National Aeronautics and Space Administration (NASA) began the launching of a series of six Application Technology Satellites (ATS) to test and improve satellite communications. The sixth satellite in the series, ATS-6, launched May 30, 1974, is the largest and most powerful communication satellite ever sent aloft. This satellite is being used to conduct an extensive series of both technical and non-technical experiments. The AESP was one such experiment in educational technology.

The ATS-6 satellite maintained a fixed position (geosynchonous orbit) near the Galapagos Islands, 600 miles west of Ecuador in the Pacific Ocean. From this vantage point in space, the ATS-6 could transmit to most of the North America continent. The transmitter/receiver system of the satellite bounced signals off the craft's 30-foot parabolic reflector to produce a pair of beams which formed giant "footprints" on the earth, each 1,000 miles long by 300 miles wide. The AESP project staff worked closely with NASA in determining the reception areas in Appalachia and the technologics available for interfacing the ATS satellites. Interfacing techniques included a terrestrial system necessary to transmit audio and video signals from the RCC studios in Kentucky to one of NASA's facilities in Rosman, North Carolina.

Within the satellite footprints, five RESAs, the Chautauqua, Maryland, DILENOWISCO, Clinch-Powell and TARESA RESAs, had primary transmitting and receiving terminals with the capability to receive the satellite telecast and also to transmit audio communication and data via satellite. (The transmitting capabilities were provided through NASA's ATS-3 satellite). These RESA terminals were defined as main sites. Each main site formed a triangular network with two ancillary sites which could receive the ATS-6 satellite broadcast, but could not directly transmit via the ATS-3 satellite. These sites, however, were connected to their respective main sites by land lines, so that questions and comments of teachers taking the courses could be relayed to the main sites and forwarded by ATS-3 satellite to the RCC studio for response.

As mentioned above, the AESP used two of NASA's ATS satellites: ATS-6 and ATS-3. The AESP also used two uplink stations: one in Rosman, North Carolina and the other in Denver, Colorado. Except for the four-channel audio programs the majority of the AESP produced material (both the pre-taped and "live" seminar programs) was uplinked at Rosman, North Carolina. However, since the Rosman uplink did not have the capability for transmitting multiple channels, the Denver uplink was used and also served as a back-up in emergencies. Voice data, such as the audience questions asked during the seminars, and other information requests were transmitted and received directly from the main sites to the RCC studio. (Figure 3 diagrams the AESP delivery patterns).

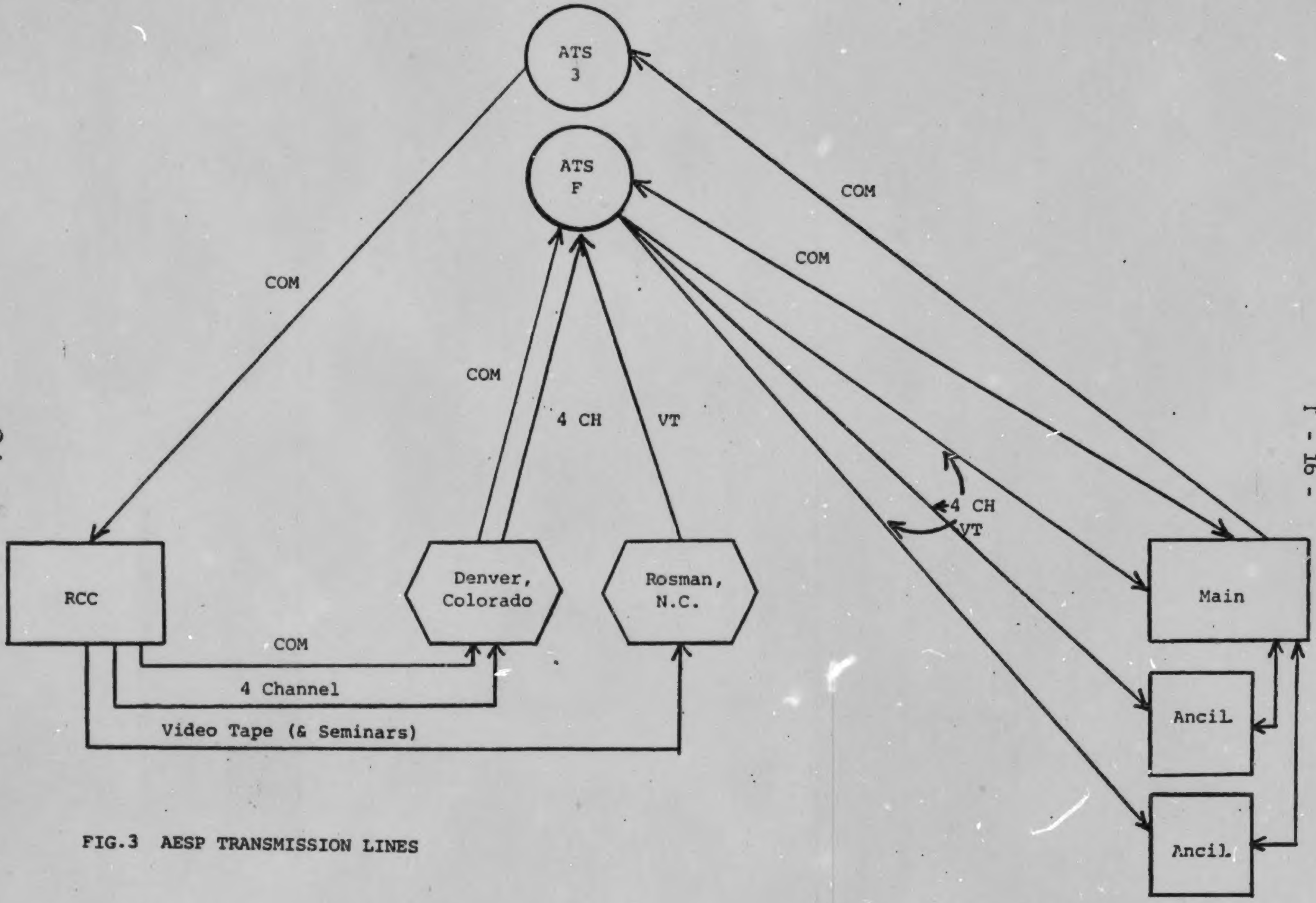

ATS 3
ATS F
COM
COM
COM
COM
4 CH
VT
4 CH
VT
RCC
Denver, Colorado
Rosman, N.C.
COM
4 Channel
Video Tape (& Seminars)
Main
Ancil.
Ancil.

FIG.3 AESP TRANSMISSION LINES

VI. AESP Program Operation

Responding to priorities established by the local area participants, the AESP offered courses in the teaching of reading and career education via its unique communications network. During the summer of 1974 graduate credit courses were offered in reading (K-3) and career education (K-6). During the 1974-75 school year the AESP offered graduate credit courses in career education for junior and senior high school teachers and courses in the teaching of reading for the K-3, K-6, and 4-6 level teachers.

Summer Courses, 1974

Both the reading and the career education courses transmitted during the summer of 1974 involved 16 satellite broadcasts. These broadcast consisted of three quarter hour live video seminars and 12 one-half hour pre-taped video programs. The live seminars allowed for immediate audio interaction between the instructor and the students enrolled in the courses. The pre-taped programs were followed by 15 minutes audio question and answer reviews and pre-planned audio-instruction application periods. At the end of the sessions following the presentation of each program unit, there were multiple choice examinations.

School Year, 1974-75

The career education course, transmitted during the 1974-75 school year, consisted of 16 live video seminars 60 minutes in duration. During these sessions, direct interaction between the instructor in the RCC studio and the teachers in the classroom at the 15 receiving sites was possible.

The reading courses transmitted during the 1974-75 school year consisted of a varying mix of 17 pre-taped "programs" and 5 interactive seminars. In addition, four-channel audio instruction applications were again used. Perhaps the best way to describe the elements of an effective learning sequence as established in the AESP would be to briefly trace the development and related inter-activities involving the AESP courses.

Reading Program

During the planning and development phases of AESP the reading instructor made on-site visits to representative schools throughout Appalachia to observe the current reading assessment and teaching procedures so that the reading courses could be shaped to fit the target audience. It was determined that the teachers needed to know more effective ways to recognize student reading deficiencies and strengthen student reading skills. The course focused on how teachers could recognize and assess reading deficiencies, use computerized diagnostic-prescriptive information systems, apply a large number of reading-improvement techniques, and conduct individualized and small group instruction.

Modeled on the New York State Department of Education In-Service Reading Program, the reading courses emphasized practical techniques for the classroom teachers. Each individual program was similar to a documentary in that it was punctuated by slice-of-life shorts showing actual teachers in Appalachia using the techniques. For one-half hour prior to, during, and after each of four live seminars, an audio link was maintained between the RESA classroom sites and the RCC studio. During this time the students enrolled in the courses could ask questions of the instructor or of the visiting experts.

The reading component director, a professor in reading, was responsible for the development of reading program scripts and accompanying ancillary materials. Assistants collected and organized reference materials, as well as, developed four-channel audio and ancillary activities. Data on reading skills, assessment procedures, and teaching methods was collected by computerized search of the literature in such files as ERIC, the Texas Computer Retrieval System, and the University of Kentucky Regional Educational Materials Center.

Career Education Program

The elementary career education course focused on ways K-6 grade teachers can restructure curriculum around the world of work. The course provided teachers with broader understanding of career education and techniques they could use to help their students acquire self-awareness, decision-making skills, occupational information, academic skills, and healthy attitudes toward work.

Similar in format to the reading course, the K-6 career education course documented ideas with on-site filming. For instance, to impress upon teachers the importance of infusing career education into normal classroom instruction, there were film segments showing teachers preparing and performing actual career education lessons.

The career education course for junior and senior high teachers consisted entirely of live videos from the RCC studio at the University of Kentucky. During each seminar there was an audio return-link from the RESA classroom sites to the RCC studio. This link between the students and the professor was an efficient means of establishing the inter-personal relationship for individualized instruction. Usually student reaction to a televised course is collected only after the completion of the course, and a re-cycling of the product before letting others use it is the maximum effect student input can have. However, with the AESP, weekly feedback via the audio connection altered subsequent presentations, thereby adapting the content of the on-going course more toward the expressed needs of the participants.

In addition, the audio inter-connection provided the opportunity for students to interact with career education experts and community leaders taking part in the seminar discussions. Interaction with experts is the basis of seminar instruction in the universities. The transmission by satellite of one-way video and two-way audio made possible the expansion of this methodology from its present use in isolated classrooms to multiple inter-connected classrooms.

The format for each session of the career education course for high school teachers contained presentations on selected topics in the form of lectures, panel discussions or videos of episodes in the operation of successful career education projects. As questions arrived from the RESAs repetitions were eliminated by off-stage coordinators, the questions were fed to the on-stage coordinator who asked the appropriate resource person for the answer. These questions were subsequently studied for clues as to how future programs could be modified to better meet the needs of this particular audience.

Four-Channel Audio Instructional Activity

A 15-minute pre-programmed audio review of the video content that followed each program that was not a seminar, demonstrate satellite capability for multiple-channel synchronized transmissions. Through his headphone, the participant heard a question, usually in the form of a problematical situation, pushed one of four buttons on a touch pad to indicate the response he judged most appropriate and heard a description of the factors he should have considered when making his response.

In addition, the incorporation of a response-accumulation device in the four-channel console, made possible the collection of data useful in program revision. With an accurate record of initial student responses made to questions constructed to elicit behaviors specified in the course objectives, it was possible to determine which behaviors the program did not adequately prepare the student to perform.

The response-accumulation device in the four-channel audio console also provided a mechanism for in-house revision of videos before they were released. The procedure was to have a group similar to the target audience view each completed video. They were told whenever the light over the television came on they were to turn the dial to "A" if they understood what was being said or to "B" if they did not understand. They could be asked to answer any question pertaining to individual interest and understanding. From student recorded response, peaks and depressions were charted concerning the program content, and from this charting necessary revision was accomplished.

Information Retrieval Systems

Pre-planned activities and a depository of microfiche and hard-copy reference materials complemented each video and four-channel audio unit. To supplement the limited depository of hard-copy or microfiche reference materials at each site, the teachers in the course had access to computer-based information retrieval systems: The Computer-Based Resource Unit (CBRU), the Texas Computer Retrieval System (CRS), the Select-Education Prescriptive Materials Retrieval System (PMRS), as well as computerized index tapes to Educational Research Information Centers (ERIC), and Abstracts in Instructional Materials and Abstracts in Research Materials (AIM/ARM).

The CBRU data base consisted of units of study on career education topics. The computer matched the set of objectives supplied for a particular class or individual to potential resources and strategies and printed out a list of appropriate instructional activities, supplementary materials, and evaluative devices.

The Texas CRS with its 10,000-item data base identified reading instructional materials. During satellite-televised programs, the teachers were shown how to fill in forms specifying the kinds of materials wanted.

Requests were teletyped to the RCC for transmission to Texas; there the CDC 6600 Computer printed out microfilm numbers, shelf numbers, and program titles and teletyped the information back to RCC; the Recordak Microfilm Reader-Printer retrieved the abstracts that corresponded and either the abstract or the actual item was sent to the requestor.

The PMRS, based on approximately 4,000 instructional materials, was a retrieval system that permited the teacher to personally conduct searches for instructional materials, once certain varibles were identified and translated into terms contained in the PMRS thesaurus. The teacher was taught to use the system during one of the satellite-transmitted programs.

The ERIC tapes allowed computerized retrieval of selected citations of education reports and journal articles from worldwide sources. AIM/ARM citations supplemented the ERIC file; they were in the same format and were assigned retrieval numbers by the same system.

In order to determine the most efficient way to process information requests, three alternate and/or complementary communications system were tested:

1. Voice transmission via satellite during the times it was available to project personnel and simulated satellite transmission at other times via long-distance land lines;
2. Facsimile transmission via xerox facsimile telecopiers installed at the RCC and each RESA and;
3. Teletype transmission installed at the RCC and each RESA.

In summation, each of the elements in the learning sequence of the AESP courses explored different ways the satellite could be used to facilitate learning.

II. RESOURCE COORDINATING CENTER

II. RCC

The next section of this report discusses in detail the activities of the Resource Coordinating Center at the University of Kentucky. It is felt that an indepth recapitulation of these activities will add greatly to the readers' understanding of the complexities of this project. These complexities have been only briefly summarized in the previous section.

It should be noted that although the overall management of the AESP was undertaken by ARC, the field oriented nature of the project dictated the necessity of separate management structures for the individual components. A discussion of the RCC management structure is included. The ARC however maintained the right to make final judgments on all matters of major significance.

Finally, the next section also includes specific recommendations by the RCC staff. Most of these recommendations appear to be acceptable; however, those which may be controversial, have been retained in the desire to be fair to all individuals connected with the project at the RCC.

FINAL REPORT

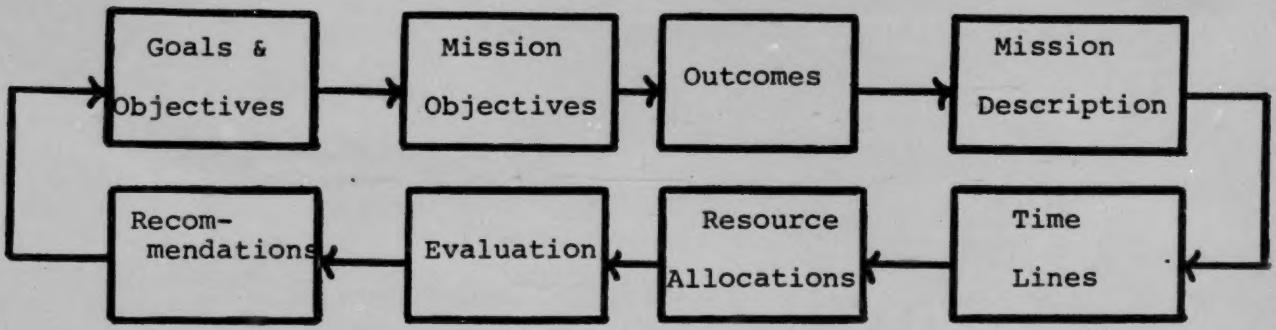
FOR THE

APPALACHIAN EDUCATION SATELLITE PROJECT RESOURCE COORDINATION CENTER

A. INTRODUCTION

The purpose of this final report is to describe the activities of the Resource Coordination Center of the Appalachian Education Satellite Project (AESP) during the operation of the project.

To provide a frame of reference for the reviewer, the report is organized to correspond to the elements of the following project developmental model except for the Project Management and Mission 7 sections where the evaluation elements did not operate.



This model represents a closed-loop, self-correcting system. As project evaluation indicated that objectives were met, or that internal or external factors were influencing the project in ways that were not anticipated, modifications in any portion of the project were made, as necessary.

The following narrative provides additional elaboration of the elements of the model and the subsequent sections of the proposal.

1. An overview and goals and objectives for the entire project are specified in sections of this proposal. In order to meet the project goals and objectives, the project was subdivided into 7 missions. Each of these is then presented in a separate section

which specifies the remaining elements of the project development model.

2. Objectives are specified for each mission to describe the general purpose of the mission.

3. Expected Outcomes are then listed to describe the resultant product of mission activities.

4. The mission description is a narrative of the activities that were conducted within the context of each mission. Behavioral objectives for learners are included in this element in those missions that were designed for instructional purposes.

5. The resource allocation element for each mission specifies the staff and physical resources that were utilized. Fiscal resources that were required, however, have been summarized by mission in the budget section at the end of the final report narrative.

6. A brief overview of the evaluation procedures is included for each mission. Additional information with respect to overall project evaluation is included in the mission project evaluation.

7. The time lines are listed for each mission to describe the mission's proposed schedule.

8. Recommendations are included at the end of each section to indicate elements of the mission which might be continued, elements of the mission which should be changed, and elements which might be added to the mission.

Information related to the management of the project is in the second section. It will be evident that planning for each of the missions and the project management was undertaken in a detailed and highly specific manner. It is the position of the project staff that the successful completion of each of the project missions has resulted in the attainment of the broader general goals and objectives of the project.

B. OVERVIEW

The role of the University of Kentucky in the development of the Education Component of the Appalachian Education Satellite Project (AESP) was to serve as the Resource Coordinating Center (RCC). This experiment involved, in part, the development of high quality videotape courses and seminars broadcasted by satellite to teachers located in 18 Appalachian States through Regional Educational Service Agencies (RESAs). The television courses were at the graduate level of study and focused on the in-service needs of teachers in reading and career education. The RCC was required to develop a high degree of cooperation and interaction between the RCC, the Appalachian Regional Commission (ARC), the RESAs and those who administered the AESP. When the RCC was formed, the University of Kentucky had capabilities in the areas of educational evaluation, elementary education, career education, television, audio and computer software development, large scale system management, communication technology and teacher training, as well as a backlog of experience in dealing with people and institutions in Appalachia. Using these resources the University met its challenge of demonstrating the use of advanced education technology to strengthen existing local programs in elementary reading and career education to the ultimate benefit of the youth of Appalachia.

The RCC program for developing the Education Component of the AESP consisted of three parts. The first was a television component which included the production of in-service teacher education programs: two courses in elementary reading, one in career education and one live seminar course in career education with direct audio feedback from teachers.

The second was a computer-based information component which included a resource dissemination system in career education, diagnostic/prescriptive systems in both career education and elementary reading along with a special section for children with reading difficulties. The third component was that of coordinating the relationships between the RCC parts, the RESAs, and the technology. This component consisted of (1) designing instructional materials which were organized, revised, and adapted to the instructional delivery systems, and (2) insuring that the system and its services and products met local needs and were used.

At the formation of the RCC, the College of Education at the University of Kentucky had resources especially capable of designing these three components of the AESP.

The former University of Kentucky Regional Special Education Instructional Materials Center (UKRSEIMC) had been providing, since 1966, information about instructional materials to workers with exceptional children and youth in Kentucky, Tennessee, North Carolina, and West Virginia. As one of eighteen such centers in the U.S., UKRSEIMC had developed, utilized, and/or field-tested seven different information and retrieval systems similar to that required by AESP. UKRSEIMC had also produced broadcast quality color videotapes for in-service teacher education for both open and closed circuit Educational TV presentation. Multimedia teacher education programs, useable on TV or in person, had also been developed. Most of UKRSEIMC's programs and strategies were adaptable to AESP requirements.

The College of Education and the Division of Media Services at the University collaborated several times in the last few years. Media Services had been quite active in producing programs for use on the main campus and in the community colleges since its creation in 1969. In 1971-72, more than seven hundred lesson units in a variety of fields were created and sent out over the state's closed-circuit TV network. The TV center was professionally staffed and equipped with color broadcast quality production tools. Media Services also had experience in creating programs on how to use the computer and in the production of live seminars with a two-way feedback system, such as that required by the AESP.

The UK Computing Center, equipped with an IBM 360/65 Central Processing Unit, offered a full range of computing functions including batch data processing, scientific processing, conversational time-sharing, computer-assisted instruction and information retrieval. The University of Kentucky printing plant had both letter press and offset capabilities and was equipped to produce multi-color posters, leaflets and other materials that were used both in teacher training and instruction of children in the Appalachian schools.

Like other state universities in recent decades, the University had intensified its programs in both research and service. UK had initiated a program which restated the institution's commitment to increased and more effective effort on behalf of the people of Appalachia.

The University's interest in the AESP, therefore, was expressed within the context, among other things, of its "program for Improving the Quality of Life in Appalachia." The breadth of this program was indicated by a list of more than fifty Appalachian related research projects that were currently underway or that had been completed in recent months, (Center for Developmental Change, 1973). The University's interest and competence in Appalachian studies was further validated by a preliminary working bibliography, prepared in April, 1972, listing three hundred titles of publications by UK personnel which related directly to Appalachian resources and their uses over a fifty-year period (Center for Developmental Change, 1972). In testimony of the University's region-wide interest and competence, it should be noted that at least sixty of the titles in the listing dealt with Appalachia beyond the boundaries of Kentucky; many, if not most, of the others identify studies from which the findings are generalizable to the whole Appalachian region.

Using these resources the University, serving as the RCC, developed the videotape programs, the computer-based information system, the four-channel audio system, and the evaluation component.

C. GOALS AND OBJECTIVES

A major goal of this project was to increase the number of Appalachian high school graduates who continue their education and/or pursue satisfying and productive careers. Toward that end, it was necessary to design and provide courses in career education and reading that prepared teachers to be more effective in helping members of their classes take full advantage of educational opportunities. The project, therefore, improved and expanded the delivery of training programs in elementary and career education to Appalachian teachers in the communities where they worked by utilizing the organization and facilities of the RESAs and by improving their effectiveness in conducting educational programs of high quality. By linkage with and use of an advanced satellite communication system, a new and additional resource, the RESAs achieved greatly increased capability for effective and significant in-service teacher training.

The RCC accomplished this major goal by meeting three general objectives: (1) prepare instructional materials which take advantage of the delivery system, (2) provide a resource dissemination system which meets the needs of teachers in serving students, and (3) facilitate communication between teachers, RESAs, and the RCC.

Teachers and administrators were directly involved on the local level in curriculum development for Career Education (K-12) and Diagnostic and Prescriptive Reading Instruction (K-6) and for implementation in their own schools. Concurrently, teachers were provided with learning opportunities necessary for comprehensive in-service education to improve classroom techniques in these areas. By arrangement with the University of Kentucky or their neighboring universities, teachers successfully completing either the career education or elementary reading programs received graduate credit. The effectiveness of the in-service training for teachers and the improvement of materials and of classroom procedures were demonstrated by improvement in the teaching skills of the participating teachers.

The specific educational objectives were carefully delineated and the project organized into missions corresponding to each.

Mission 1.0	To develop two televised courses in reading instruction for 600 teachers of students in grades one through six for broadcast via the Applied Technology Satellite.
Mission 2.0	To develop a televised course in career education for 300 teachers of students in grades 1 through 6 for broadcast via the Applied Technology Satellite.
Mission 3.0	To develop a live, interactive, televised seminar in career education for 300 teachers of students in grades 7 through 12 for broadcast via the Applied Technology Satellite.
Mission 4.0	To develop a series of four-channel one-way audio programs in reading and career education for broadcast to 900 teachers via the Applied Technology Satellite.
Mission 5.0	To produce the televised courses, seminars, and four-channel audio developed in Mission 1.0 through 4.0. To broadcast the televised courses and seminars developed in Mission 1.0 through 3.0.
Mission 6.0	To develop and implement a combination of computer-based and manual systems

for storing, retrieving, and delivering information and instructional materials in the area of elementary reading and career education to a maximum of 1,200 teachers who were enrolled in coursework developed in Mission 1.0 through 4.0.

Mission 7.0 To develop and implement a formative and summative evaluation plan for all project activities.

In each of these educational missions, in addition to the educational objectives, the following technical objectives for this project were attained.

To demonstrate the feasibility of large scale resource development, sharing, and delivery mechanism for educational service in the 13 state area served by the Appalachian Regional Commission. Specifically the use of telecommunications and computerized information retrieval systems were explored.

To explore the feasibility of using fixed, broadcast satellites and linking various terrestrial communications systems for delivery of educational services to the Region. This pilot project demonstrated the feasibility of increasing the number of satellites to offer continuous service and increase the options in courses, data bases, and times of day.

To gain knowledge in the preparation of software which is adaptable to the instructional hardware systems, and concurrently can be used by a heterogeneous target audience with diverse backgrounds.

To develop knowledge and experience concerning the design of organizational arrangements for cooperation among states and with other regions with similar interests and problems for taking advantage of the economies promised by large scale systems.

To examine various instructional systems mixes in terms of effectiveness and efficiency.

PROJECT MANAGEMENT

A. Objective

To develop and maintain an administrative system for managing RCC project activities.

B. Outcome

All RCC project objectives were met and a final report was submitted by September 1, 1975.

C. Mission Description

The management system for this project employed a management by mission concept, which was broader in reference than traditional management by objective. Its breadth and flexibility permitted the needed latitude in planning and development and, at the same time, provided enough structure to assure accountability to the project's constituency and sponsors.

The mission concept accomplished the grouping of several broadly related objectives under a taxonomical, or mission, statement. Since the project's objectives were under constant examination, evaluation, and modification; an initial grouping of objectives served the need for management flexibility to enhance necessary change. It also introduced enough structure to establish accountability and procedures to guarantee that accountability became more powerful as planning was followed by operations manageable by specific, individual objectives.

STAFF ORGANIZATION

The management system for the project included the following aspects:

The Appalachian Regional Commission

A.E.S.P. Director

Project Advisory Board   Resource Coordination Center

RCC Executive Director

Deputy Director   Assistant to the Director

Secretaries

Reading Mission Director	Career Ed. Mission Director	Four-Channel Mission Director	Television Mission Director	Information Mission Director	Evaluation Mission Director
Mission Staff	Mission Staff	Mission Staff	Mission Staff	Mission Staff	Mission Staff

Rationale: It was understood that the line of authority for the project came from the Appalachian Regional Commission to the University of Kentucky's Resource Coordinating Center. This direct line of authority was supplemented with the advice and review prerogatives vested by contract in the Advisory Board. The Board also assisted in programmatic, technological, and field support areas.

The Resource Coordinating Center Executive Director was responsible for maintaining the overall integrity of the RCC project and acted as liaison among the several units and agencies involved in the project including other parts of the University of Kentucky, the Regional Education Service Agencies and the Appalachian Regional Commission.

The RCC Deputy Director was employed on the recommendation of N.I.E.'s site visit. The deputy's role was to provide general assistance to the Executive Director with project management and to assume special responsibility for RESA relations and dissemination activities.

The Assistant to the RCC Director was responsible for general office management, especially business affairs, reporting, and expediting support activities for all RCC components.

The Project Mission Directors were the individuals to whom the executive director delegated the primary responsibility for the ongoing day-to-day maintenance and evaluation of each of the Project's missions. As individuals, the mission directors implemented the Project's directives, policies, and guidelines, supervised their mission staff, and facilitated communication within their respective missions. Each, together with their mission staff, translated the objectives of the Project into finished products.

The Project Mission Staff was directly responsible to and was organized at the discretion of their mission director in such a way as to best take advantage of their expertise to accomplish the mission's goals. In some cases a mission staff member served on two or more missions, in which case the mission staff member was coordinated by the appropriate mission director. All mission staff members had access to the executive director through their mission director.

Advisory Board advised on policies and guidelines for the project. Through its broad representation it provided inputs to both programmatic and delivery systems. The Board provided general recommendations for the project to be implemented by the Executive Director. All recommendations of the Board were subject to the constraints of budget, staff availability, system resources, and delivery capabilities.

The members of the Board are listed on the following pages.

	ROLE
Aldridge, Effie Lou R. 1, Box 229 Banner Elk, N. Carolina 28604	Teacher
Bell, Elinor 26 East Church Street Williamsport, Maryland 21795	Teacher
Bennett, Stephanie B. Chautauqua County Board of Cooperative Educational Services P.O. Box 250 Fredonia, New York 14063	Project Coordinator
Breads, Ruby Reading Coordinator Bemus Point, New York 14712	Teacher
Brish, William Maryland RESA 28 East Magnolia Hagerstown, Maryland 21740	Project Coordinator
Brison, Lloyd 104 Kentucky Avenue Oak Ridge, Tennessee 37830	School Administrator
Fry, Robert Appalachian Regional Commission 1666 Connecticut Avenue, S.W. Washington, D.C. 20035	Instructional Television Production
Hill, Wayne Allegheny County Schools Cumberland, Maryland	School Administrator
Himelrik, John State Department of Education Charleston, West Virginia	Representative from State Dept. of Education
Hutcheson, James TARCOG Human Resources Program 2603-C Leeman Ferry Road, SW Huntsville, Alabama 35801	Project Coordinator
Hyke, Larry Clinch-Powell Education Cooperative Harrogate, Tennessee 37752	Project Coordinator

Jones, Morley D. Dilenowisco Educational Cooperative 1032 Virginia Avenue Norton, Virginia 24273	Project Coordinator
Lee, Zeplin Dilenowisco Educational Cooperative 1032 Virginia Avenue Norton, Virginia 24273	School Board Representative
Mahoney, Edward 208 Watauga Avenue Johnson City, Tennessee 37601	School Board Representative
Marxer, David Director of Educational Media Public Schools ETV Center 706 Read Drive, S.E. Huntsville, Alabama 35801	School Board Representative
Petre, Richard Maryland State Department of Education P.O. Box 8717 Friendship International Airport Baltimore, Maryland 21240	Representative from State Department of Education
Reed, Jeff Carlisle Park School Guntersville, Alabama	School Board Representative
Reynolds, Edgar W. Maryland RESA 110 Washington Street Cumberland, Maryland 21502	Project Coordinator
Shook, Mollie W. National Center for Occupational Education North Carolina State University Raleigh, North Carolina	National Expert in Career Education
Skeen, Paul Superintendent of Dickinson County Schools Dickinson County School Board Clintwood, Virginia 24228	School Administrator

Williams, Nofflet Tennessee Technological University Cookeville, Tennessee	University and RESA Board Representative
Wolf, Allan Asst. Executive Director Northwest Tri-County Intermediate Unit 2911 State Street Erie, Pennsylvania 16508	School Board Representative

SPECIFIC MANAGEMENT RESPONSIBILITIES

Management Reporting System

1. Developed and periodically (as required) updated long-range planning charts depicting all major events and the time frames in which they were to be accomplished.
2. A biweekly projection of tasks to be accomplished during the upcoming two-week reporting cycle and a report on the status of tasks that had been projected in past two week report cycle was prepared during Phase II. This became a monthly report in Phase III.
3. An accounting by line item of all expenditures was prepared at the end of each month.
4. Quarterly reports covering the status of events by component were submitted.
5. A final report for Phase III was submitted by September, 1975.

Public Relations

1. A monthly newsletter, TRACKER, was published for distribution. TRACKER described relevant project activities for participating teachers and others interested in the project.
2. Press Releases - The RCC prepared news releases which were disseminated on a periodic basis as significant project developments unfolded.
3. Slideshow - The RCC developed two slideshows, one a 25 minute presentation and a shorter ten minute version. These were distributed to ARC and the RESAs for use in promoting the project. The slide show was continually revised to reflect the changing status of the project.

5. Local Radio and Television Appearances - The RCC Directors and several other project staff members made several appearances on local radio and television.

Coordination Activities

1. Staff Meetings

   Weekly component director meetings were held to review work plans and coordinate the various components activities. Periodically staff meetings were held to inform staff of important events and to coordinate work efforts.

2. Component Review Sessions

   The RCC Director met with individual component directors and staff members to review progress.

3. University Relations

   The RCC Director served as a liaison between the Appalachian Education Satellite Project and the University of Kentucky. The contract between ARC and the RCC was administered by the University of Kentucky Research Foundation.

   Personnel decisions and course offering were approved by the Dean of the College of Education. Enrollment of students was coordinated with the Registrar and Dean of the Graduate School.

4. Project-wide Meetings

   Approximately every two months the RCC component directors attended project-wide meetings with representatives from the RESAs and ARC. These meetings reviewed progress and helped to coordinate the activities of the RCC, the RESAs and ARC.

D. Resource Allocation

Fiscal resources required are specified in the budget section. The staff responsible for this mission were as follows:

Project Director: David Larimore

Deputy Director: Nofflet Williams

Assistant to the Director: Diane Maynard

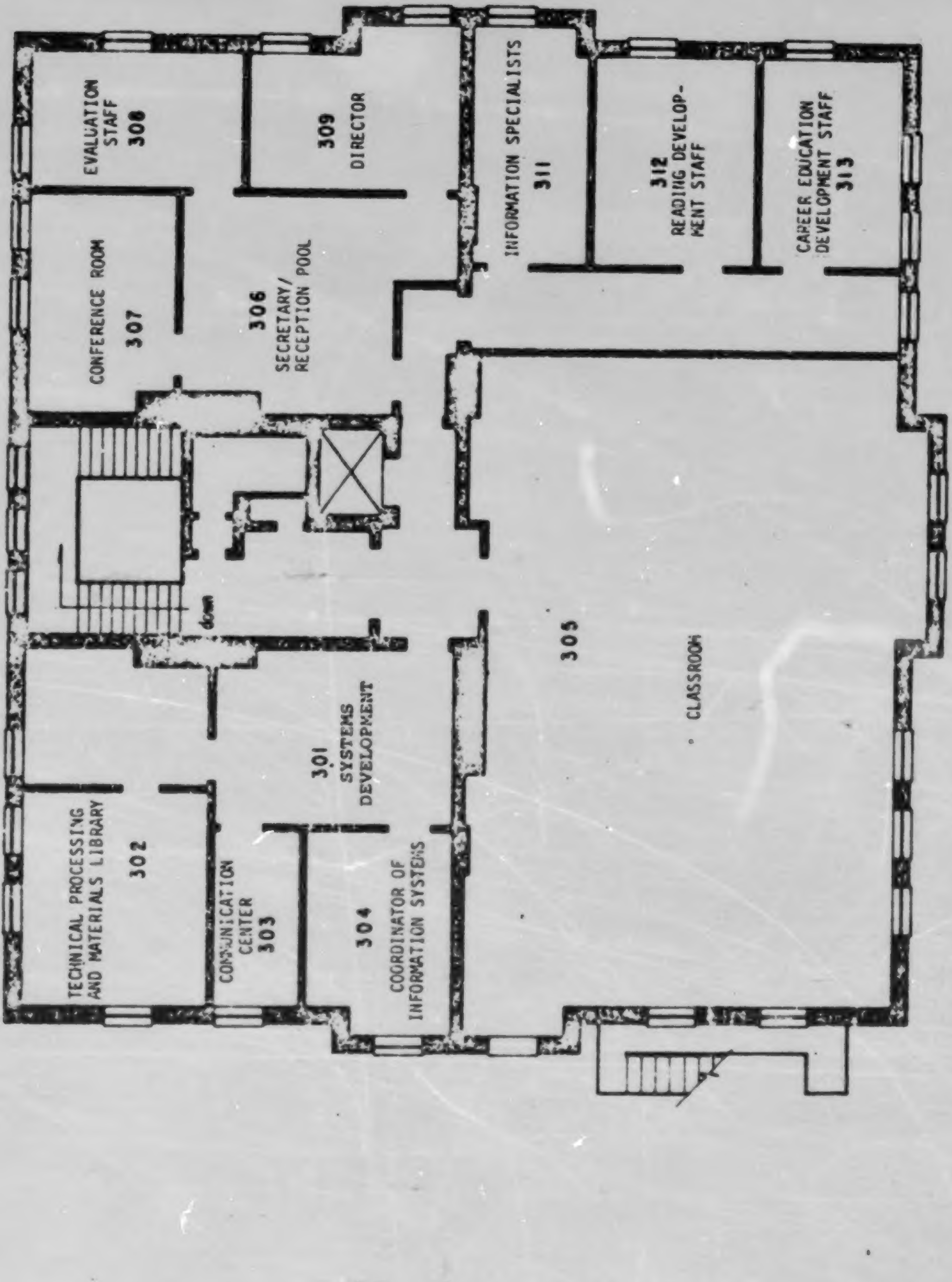
The project administrative offices were housed in a suite of offices in Frazee Hall in the central part of the University campus. (Figure 8.6)

The University of Kentucky allocated the following new equipment to furnish the office space provided in the Frazee Hall facility. This equipment was installed and facilities were occupied by project staff on July 15, 1973.

Executive desks	12
Secretarial desks	3
Work tables	12
File cabinets	23
Book cases	6
Executive chairs	12
Office chairs	43
Secretarial chairs	4
Telephones	19

Fig. 8.6 EXPLANATION OF SPACE FOR ATS-F EXPERIMENT

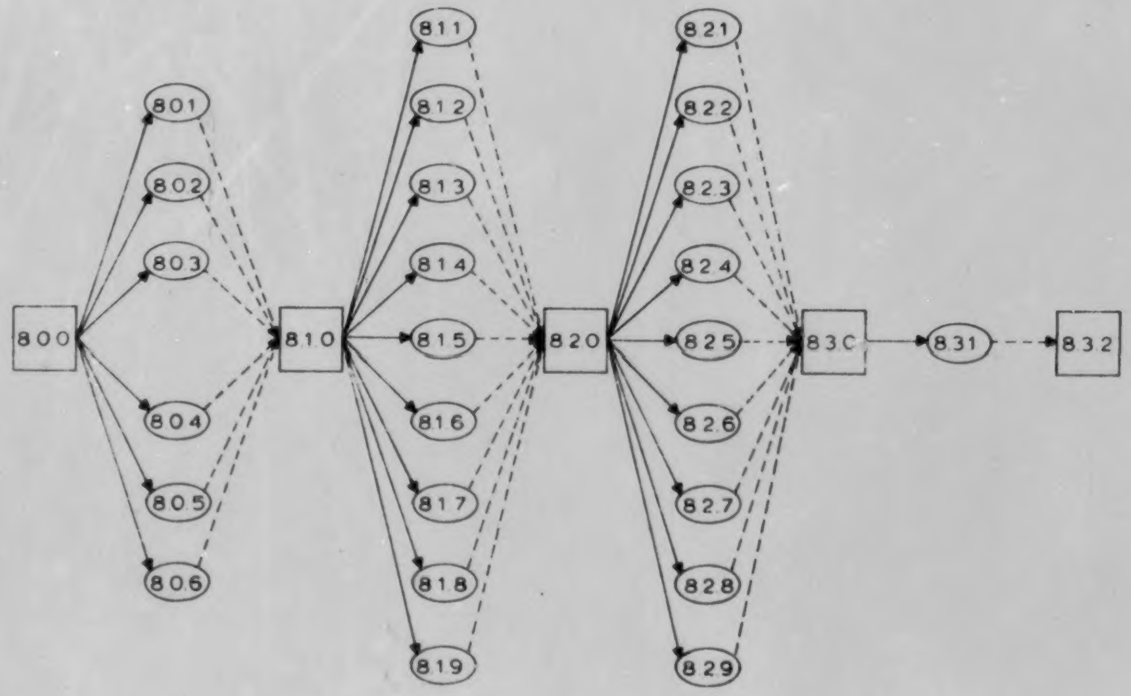
(FRAZEE HALL - THIRD FLOOR)


EVALUATION STAFF 308
309 DIRECTOR
INFORMATION SPECIALISTS 311
312 READING DEVELOPMENT STAFF
CAREER EDUCATION DEVELOPMENT STAFF 313
CONFERENCE ROOM 307
306 SECRETARY/ RECEPTION POOL
down
305
CLASSROOM
301 SYSTEMS DEVELOPMENT
TECHNICAL PROCESSING AND MATERIALS LIBRARY 302
COMMUNICATION CENTER 303
304 COORDINATOR OF INFORMATION SYSTEMS

E. Time Lines

The summary network and time lines for management appear on the following pages.

These time lines were designed to be planning tools for the development phase of the project. They accurately reflect the milestones of the project and start and finish dates with one exception. Development of a second reading course replaced the planned second career education seminar.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APPALACHIAN APPLIED TECHNOLOGY SATELLITE PROJECT

UNIVERSITY OF KENTUCKY

SUMMARY NETWORK FOR MISSION 8.0 — PROJECT MANAGEMENT

START: 1 JUN 1973

FINISH: 31 AUG 1975

PROJECT DIRECTOR: LARIMORE

NETWORK DEVELOPER: BLACKHURST

FIG. 8

1 JUNE 73

SCHEDULE FOR MISSION .0 PROJECT MANAGEMENT

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*****************************************************************
*  S C H E D U L E    F O R    P R O J E C T    'ATSF-TV '  *
*****************************************************************


PROJECT DURATION IS   572 WORK DAYS,  WORK WEEK IS 5 DAYS
WORK IS SCHEDULED TO START ON THE MORNING OF  1 JUN 1973
AND TO BE COMPLETED ON THE AFTERNOON OF 28 AUG 1975.

THE PROJECT 'ATSF-TV ' NETWORK HAS
  25 ACTIVITIES OF WHICH   25 APPEAR ON THIS REPORT OR SCHEDULE
   5 MILESTONE EVENTS OF WHICH    5  APPEAR ON THIS REPORT OR SCHEDULE

THE FOLLOWING USER-ASSIGNED CONSTRAINTS HAVE BEEN USED IN SCHEDULING.

      EVENT        832              *SUBMIT FINAL REPORT*             IS TO OCCUR  ON  DAY   31 AUG 1975
      EVENT        830              *START FINAL REPORT*              IS TO OCCUR  ON  DAY    1 JUN 1975
      EVENT        820              *START IMPLEMENTATION PHASE*      IS TO OCCUR  ON  DAY    1 JUL 1974
      EVENT        810              *START DEVELOPMENT PHASE*         IS TO OCCUR  ON  DAY    1 SEP 1973
      EVENT        800              *START PROJECT MANAGEMENT*        IS TO OCCUR  ON  DAY    1 JUN 1973

ACTIVITIES ARE SCHEDULED TO START ON THE MORNING OF THE SPECIFIED WORKDAY OR DATE
AND TO FINISH ON THE AFTERNOON OF THE SPECIFIED WORKDAY OR DATE.

EVENTS ARE SCHEDULED FOR THE MORNING AFTER THE LAST PRECEDING ACTIVITY FINISHES,
EXCEPT FOR EVENTS OCCURRING ON THE PROJECT COMPLETION DATE.

ACTIVITIES AND EVENTS ARE SORTED ACCORDING TO   NODE NUMBERS

'C' IN MARGIN DESIGNATES A CRITICAL ACTIVITY OR EVENT.

HOLIDAYS AND NON-WORKING DAYS FOR PROJECT 'ATSF-TV '

                 4 JUL 1973
                 3 SEP 1973
                22 NOV 1973
                25 DEC 1973
                 1 JAN 1974
                30 MAY 1974
                 4 JUL 1974
                 2 SEP 1974
                21 NOV 1974
                25 DEC 1974
                 1 JAN 1975
                30 MAY 1975
                 4 JUL 1975
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                         E V E N T   S C H E D U L E
                         ***************************

*************************************************************************************
       EVENT DESCRIPTION                                     EARLY TIME      LATE TIME
*************************************************************************************

C      800  *START PROJECT MANAGEMENT*                       1 JUN 1973      1 JUN 1973
            PRECEDES       801      802      803      804        1               1
                           805      806

C      810  *START DEVELOPMENT PHASE*                       31 AUG 1973     31 AUG 1973
            PRECEDES       811      812      813      814       65              65
                           815      816      817      818

                           819

C      820  *START IMPLEMENTATION PHASE*                     1 JUL 1974      1 JUL 1974
            PRECEDES       821      822      823      824      276             276
                           825      826      827      828

                           829

C      830  *START FINAL REPORT*                            29 MAY 1975     29 MAY 1975
            PRECEDES       831                                 509             509

C      832  *SUBMIT FINAL REPORT*                           28 AUG 1975     28 AUG 1975
            SINK EVENT                                         572             572

                      E N D   O F   E V E N T   S C H E D U L E
                      ******************************************
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                                   A C T I V I T Y   S C H E D U L E
                                   *********************************

*****************************************************************************************************
ACTIVITY  DESCRIPTION                           DURA-     EARLY      LATE       EARLY      LATE      FREE  TOTAL
                                                TION      START      START      FINISH     FINISH    FLOAT FLOAT
*****************************************************************************************************


   001  OBTAIN PERSONNEL                         50      1JUN73     21JUN73    10AUG73    30AUG73     14    14
          PRECEDES      010                                 1         15         50         64
   002  OBTAIN PHYSICAL PLANT                    35      1JUN73     13JUL73    20JUL73    30AUG73     29    29
          PRECEDES      010                                 1         30         35         64
   003  OBTAIN SUPPLIES                          35      1JUN73     13JUL73    20JUL73    30AUG73     29    29
          PRECEDES      010                                 1         30         35         64
   004  COMPLETE PROJECT PLANNING                38      1JUN73     10JUL73    25JUL73    30AUG73     26    26
          PRECEDES      010                                 1         27         38         64
   005  DEVELOP FISCAL SYSTEM                    20      1JUN73      3AUG73    28JUN73    30AUG73     44    44
          PRECEDES      010                                 1         45         20         64
   006  ESTABLISH PROJECT PROCEDURES             25      1JUN73     27JUL73     6JUL73    30AUG73     39    39
          PRECEDES      010                                 1         40         25         64
   011  COMPLETE RDG PROGRAM DEVLPMNT           180     31AUG73     16OCT73    15MAY74    28JUN74     31    31
          PRECEDES      020                                65         96        244        275
   012  COMPLETE CAR ED COURSE DEVLPMNT         180     31AUG73     16OCT73    15MAY74    28JUN74     31    31
          PRECEDES      020                                65         96        244        275
   013  COMPLETE CAR ED SEM 1 DEVLPMNT          180     31AUG73     16OCT73    15MAY74    28JUN74     31    31
          PRECEDES      020                                65         96        244        275
   014  COMPLETE CAR ED SEM 2 DEVLPMNT          180     31AUG73     16OCT73    15MAY74    28JUN74     31    31
          PRECEDES      020                                65         96        244        275
   015  COMPLETE 4 CHANNEL PRGRM DEVLPMNT       180     31AUG73     16OCT73    15MAY74    28JUN74     31    31
          PRECEDES      020                                65         96        244        275
   016  COMPLETE TV PRODUCTION                  180     31AUG73     16OCT73    15MAY74    28JUN74     31    31
          PRECEDES      020                                65         96        244        275
   017  COMPLETE INFO SYSTEM DEVLPMNT           180     31AUG73     16OCT73    15MAY74    28JUN74     31    31
          PRECEDES      020                                65         96        244        275
   018  MAINTAIN MANAGEMENT SYSTEM              180     31AUG73     16OCT73    15MAY74    28JUN74     31    31
          PRECEDES      020                                65         96        244        275
   019  MAINTAIN EVALUATION SYSTEM              180     31AUG73     16OCT73    15MAY74    28JUN74     31    31
          PRECEDES      020                                65         96        244        275
   021  IMPLEMENT READING COURSE                 45      1JUL74     27MAR75     3SEP74    28MAY75    188   188
          PRECEDES      030                               276        464        320        508
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822  IMPLEMENT CAREER ED COURSE             45     1JUL74     27MAR75     3SEP74     28MAY75    188    188
       PRECEDES       830                              276         464        320         508

823  IMPLEMENT CAR ED SEMINAR 1            160     1JUL74     14OCT74     14FEB75    28MAY75     73     73
       PRECEDES       830                              276         349        435         508

824  IMPLEMENT CAR ED SEMINAR 2            160     1JUL74     14OCT74     14FEB75    28MAY75     73     73
       PRECEDES       830                              276         349        435         508

825  IMPLEMENT 4 CHANNEL AUDIO PROGRAM      45     1JUL74     27MAR75     3SEP74     28MAY75    188    188
       PRECEDES       830                              276         464        320         508

826  BROADCAST TV PROGRAMS                 199     1JUL74     19AUG74     10APR75    28MAY75     34     34
       PRECEDES       830                              276         310        474         508

827  IMPLEMENT INFORMATION SYSTEMS         199     1JUL74     19AUG74     10APR75    28MAY75     34     34
       PRECEDES       830                              276         310        474         508

828  MAINTAIN MANAGEMENT SYSTEM            199     1JUL74     19AUG74     10APR75    28MAY75     34     34
       PRECEDES       830                              276         310        474         508

829  COMPLETE PROJECT EVALUATION           199     1JUL74     19AUG74     10APR75    28MAY75     34     34
       PRECEDES       830                              276         310        474         508

831  COMPLETE FINAL REPORT                  45     29MAY75    26JUN75     1AUG75     28AUG75     19     19
       PRECEDES       832                              509         528        553         572

****************************************************************************************************

                              END OF SCHEDULE
                              *************************
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F. RECOMMENDATIONS:

1. The involvement of RESA and local school system personnel in course development should be continued. RESA and local school system personnel should be involved in each needs assessment before course development and should review course outlines and scripts before final production begins. Course participants should be included in a longitudinal evaluation effort that will determine the participants' perception of the quality of the course after a period of time has elapsed.

2. The involvement of college and university personnel from local institutions of higher education in course development should be continued. College and university personnel should provide peer reviews for course outlines and scripts, participate in live, interactive seminars, and arrange credit at the local level for course enrollees. With assistance from the content specialist at the RCC the cooperating faculty should also develop plans for utilizing the instructional materials at their local university.

3. Course development as an instructional package should be supported. Each course should reflect a carefully selected mix of videotapes; live, interactive seminars; ancillary materials; and published materials. Group and individual activities should be emphasized. As satellite and communications technologies improve, the delivery of information, materials, and instruction will take on new forms. Software developers should be willing to risk failure as they attempt to develop instructional packages that utilize new forms of communication and different mixes of instructional materials.

4. The software development should remain the responsibility of personnel employed by a Resource Coordinating Center(s) (RCC) located on a university campus. A university campus brings together the professional expertise, facilities, and resources required to develop software. The administrative structure of the RCC should facilitate the coordination of activities at all levels and across all divisions within the university.

5. Dissemination plans should be formulated at the beginning of the development of each course or instructional segment. Because the instructional packages will affect a large number of individuals within the client group, dissemination plans should be formed at the onset to insure utilization and should include a systematic process for acquiring instructional materials, printed public relations materials, and a plan for demonstrations and presentations at local,

regional, and national conferences and conventions. Procedures should be established for receiving visitors to ARC, the RESAs, and the RCC with a minimum of interruption.

6. The roles of the following personnel should be reviewed and updated periodically: cooperating faculty, site coordinators, component directors, and administrative personnel. The AESP delivery system is a complex organization, and role review and clarification should occur periodically in order to improve the performance of personnel.

7. Long range planning activities should include a carefully designed needs assessment to determine the inservice training needs of local school system personnel, the continuing education needs of professional groups, the basic educational needs of adults and the educational needs of students enrolled in preschool - grade 12. The needs assessment should provide the rationale for developing new software and reviewing existing software to determine the feasibility of using it to meet the educational needs of the residents of Appalachia.

MISSION 1.0 READING COURSE DEVELOPMENT

A. OBJECTIVE: To develop a televised course and accompanying ancillary materials in reading instruction for 500 teachers of students in grades one through six for broadcast via the Applied Technology Satellite. The specific objectives for the course were to provide teachers with:

1. Procedures for diagnosing pupil reading strengths and deficiencies
2. Procedures for linking the diagnosis with prescriptive instructional strategies
3. Prescriptive instructional strategies to teach specific skills identified in the diagnosis

B. OUTCOMES: Products produced by reading mission staff in conjunction with other missions were:

1. Seventeen half-hour videotapes
2. Ancillary materials for the seventeen videotapes
3. Eight live seminars
4. Narrative for Four-Channel Audio Programs

C. MISSION DESCRIPTION: Recognizing the need of teachers in Appalachian for in-service training in new concepts of reading, the objective of the proposed course was to assist teachers in improving their capability for more effective classroom instruction in reading by utilizing a diagnostic/prescriptive procedure. The diagnostic/prescriptive program was designed for improvement of teacher skills in reading readiness, beginning reading, exceptional readers, word recognition, vocabulary, study skills, comprehension, reading in the content fields, and developing life-long readers.

1. Course Outline

The reading course was developed in two phases. The first phase included the 12 programs that were developed for the K-3 course and first shown in the summer of 1974. The second phase included the remaking of the introductory and closing programs from the K-3 programs and the addition of five new programs for a 4-6 grade teacher audience. The enlarged series (K-3 + 4-6) was first shown in the spring of 1975. The topics, objectives and resource materials for the course outline were:

PROGRAM 1: DPRI INTRODUCTION

1. identify reading sub-skills
2. identify the parts of the diagnostic-prescriptive reading instruction model
3. realize the importance of early diagnosis and correction of reading problem

PROGRAM 2: INFORMAL TESTS

1. recognize the advantage of informal reading tests
2. interpret the results of informal reading tests
3. identify the sequence of activities involved in constructing an informal reading inventory

The Potter and Rae book, Informal Reading Diagnosis, from the reference shelf, will be used.

PROGRAM 3: STANDARDIZED TESTS

1. identify the procedures necessary for effective administration of standardized tests
2. interpret the results of standardized tests
3. recognize the strengths and limitations of standardized tests

The Stanford Achievement Test, Primary I, II, and III, Intermediate I and II, and the Murphy-Durrell Reading Readiness Analysis will be used.

PROGRAM 4: WORD RECOGNITION TESTS

1. administer and interpret the results of the Wisconsin Design for Reading Skill Development: Word Attack

2. connect diagnosis to the instructional materials

3. identify the sequence of activities involved in going through a complete test-teach-test instructional cycle using the WDRSD:WA

The Wisconsin Design for Reading Skill Development: Word Attack will be used.

PROGRAM 5: COMPREHENSION AND STUDY SKILLS TESTS

1. administer and interpret the results of the Fountain Valley Teacher Support System in Reading

2. connect diagnosis to instructional procedures

3. identify the sequence of activities involved in going through a complete test-teach-test cycle

4. determine the steps a total school needs to go through in implementing DPRI

The Fountain Valley Teacher Support System in Reading will be used.

PROGRAM 6: MISCUE ANALYSIS

1. identify and do the sequence of activities involved in administering the reading miscue inventory

2. categorize reading miscues

3. compile the results of the reading miscue inventory on coding sheet

4. identify Wayne's reading strengths and weaknesses

The Reading Miscue Inventory will be used.

PROGRAM 7: PRESCRIPTIVE INSTRUCTIONAL SYSTEMS

1. translate test results into words (descriptors) that can be used to find materials in the retrieval systems

2. identify the sequence of steps in the process of materials selection

3. determine which skill descriptors are most appropriate for each student

4. recognize the strengths and limitations of different retrieval systems

Selected Retrieval Systems will be used.

PROGRAM 8: DPRI MANAGEMENT

1. identify several patterns of grouping
2. assess the strengths and limitations of grouping patterns
3. determine the most appropriate grouping pattern in a given situation
4. recognize reasons for using a grouping pattern in a given situation

PROGRAM 9: READING READINESS AND BEGINNING READING

1. identify activities used to teach reading readiness and beginning reading
2. list advantages and disadvantages of the activities
3. determine which activity is most appropriate for a given situation

The Teaching of Reading by Dallman and others will serve as a resource for Programs 9-17.

PROGRAM 10: THE EXCEPTIONAL READER

1. identify activities and procedures to teach the low, average, and gifted reader
2. list advantages and disadvantages of each of the activities
3. determine which activity is most appropriate for a given situation

PROGRAM 11: WORD RECOGNITION

1. identify activities used to teach word identification
2. list advantages and disadvantages of the activities
3. determine which activity is most appropriate for a given situation

PROGRAM 12: VOCABULARY

1. identify activities used to teach vocabulary

2. list advantages and disadvantages of the activities

3. determine which activity is most appropriate for a given situation

PROGRAM 13: STUDY SKILLS

1. identify activities used to teach study skills

2. list advantages and disadvantages of the activities

3. determine which activity is most appropriate for a given situation

PROGRAM 14: COMPREHENSION

1. identify question strategies used to teach comprehension

2. write questions to stimulate student responses in various categories (i.e. knowledge, translation, etc.)

3. determine the most appropriate question strategy for a given situation

PROGRAM 15: READING IN THE CONTENT FIELDS

1. identify activities used to teach reading in the content fields

2. list advantages and disadvantages of the activities

3. determine which activity is most appropriate for a given situation

PROGRAM 16: DEVELOPING LIFE-LONG READERS

1. identify activities that assist in the development of reading interests and tastes

2. list advantages and disadvantages of the activities

3. determine which activity is most appropriate for a given situation

PROGRAM 17: TOTAL READING PROGRAM

1. identify ways to encourage parental participation in reading programs
2. recognize the strengths and limitations of DPRI
3. determine ways to implement diagnostic-prescriptive reading instruction in a total reading program
4. determine ways to establish priorities for implementation of DPRI

Schedules were developed for broadcast of the K-3 and K-6 courses. The summer course (K-3) was broadcast over a seven week period from July 11 to August 22, 1974. The spring course was broadcast over an eighteen week period from January 14 to May 20, 1975.

DPRI Table 1 shows the sequence of programs used for the K-3 series and the 4-6 additions to the original programs. To allow for maximum flexibility of course content, the spring course offered options for K-3, 4-6, and K-6 teachers. Table 2 shows the sequence of programs used for these options.

DPRI Table 1. PROGRAM CONTENT

Program	Content	K-3	4-6
1	DPRI Introduction	X	
2	Informal Tests	X	
3	Standardized Tests	X	
4	Word Recognition Tests	X	
5	Comprehension/Study Skills Tests		X
6	Miscue Analysis	X	
7	Prescriptive Instructional Systems	X	
8	DPRI Management	X	
9	Reading Readiness -- Beginning Reading	X	
10	The Exceptional Reader		X
11	Word Recognition	X	
12	Vocabulary	X	
13	Study Skills		X
14	Comprehension	X	
15	Reading in Content Fields		X
16	Developing Life-Long Readers		X
17	Total Reading Program	X	

DPRI Table 2. Program Options

Program	Content	K-3	4-6	K-6
1	DPRI Introduction	X	X	X
2	Informal Tests	X	X	X
3	Standardized Tests	X	X	X
4	Word Recognition Tests	X		CO*
5	Comprehesion/Study Skills Tests		X	
6	Miscue Analysis	X	X	X
7	Prescriptive Instructional Systems	X	X	X
8	DPRI Management	X	X	X
9	Reading Readiness--Beginning Reading	X		CO
10	The Exceptional Reader		X	
11	Word Recognition	X	X	X
12	Vocabulary	X		CO
13	Study Skills		X	
14	Comprehension	X		CO
15	Reading in Content Fields		X	
16	Developing Life-Long Readers	X	X	X
17	Total Reading Program	X	X	X

* CO = K-6 enrolled teachers will Choose Option(CO) most appropriate to their teaching needs: 4or5; 9or10; 12or13; 14or15.

2. Production Method

The production method included a series of recurring steps from idea generation of program topics to the final product. These steps were:

- a. Assess Field Needs
- b. Develop Tentative Course Outline
- c. Circulate Tentative Outline to the Field
- d. Revise Course Outline Based Upon Field Suggestions
- e. Review Research
- f. Identify Exemplary Field Teachers
- g. Develop Program Scripts
- h. Circulate Scripts to the Field
- i. Film in Field
- j. Produce Studio Segments
- k. Edit Post Production Segments
- l. Develop Ancillary Materials
- m. Locate Live Seminar Personnel

A brief summary of the various activities undertaken in each step will follow.

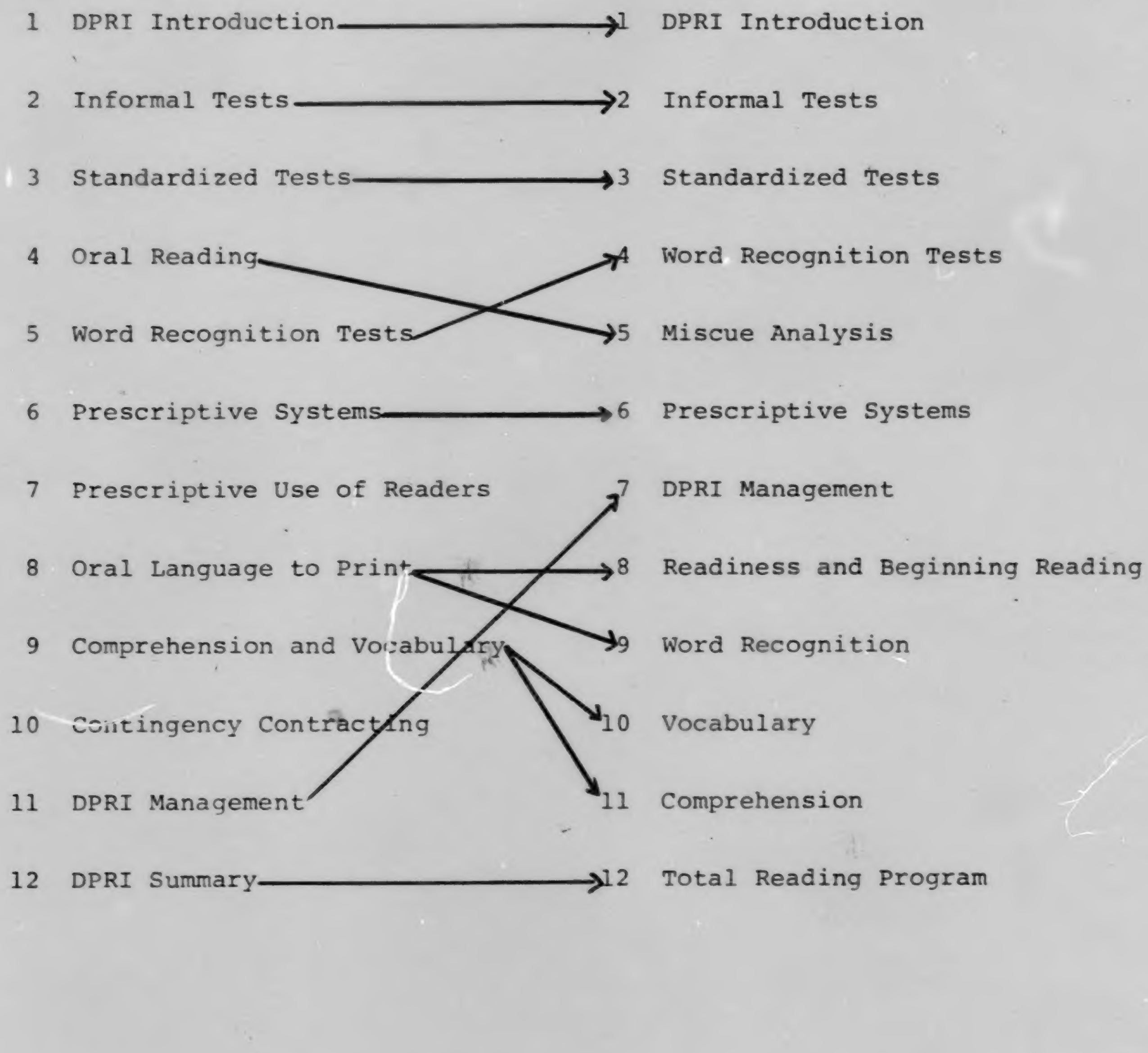
Assess Field Needs. The initial assessment of field needs was made by reading educational publications of the Appalachian Regional Commission, reviewing published articles on Appalachian children, and reviewing the New York State Department of Education In-Service Reading Program.

Develop Course Outline. A tentative course outline for the K-3 programing was developed based upon: the needs of the Appalachian region, current trends in Diagnostic and Prescriptive Instruction, and the instructor's assessment of teachers' needs based upon his teacher training experience. Topics that were added for fourth through sixth grade teachers were the result of consensus among the reading director and field university instructors.

Circulate Tentative Outline to the Field. One of the most productive activities of the reading component was to circulate the course outline to the field. Discussion of the course outline allowed the field to modify and adapt the tentative course content and to identify teachers who were eager to participate. The procedure used for circulation of the course outline was to hold open meetings with representative university instructors, public school reading consultants, and classroom teachers at each of the five lead RESA sites.

Revise Course Outline Based Upon Field Suggestions. DPRI Table 3 shows the amount of program modification that resulted from field input. The Table reveals that most of the modification occurred in the prescriptive instruction half of the DPRI course.

DPRI Table 3. PROPOSED AND ACTUAL PROGRAM TOPICS



	Proposed		Actual
1	DPRI Introduction	1	DPRI Introduction
2	Informal Tests	2	Informal Tests
3	Standardized Tests	3	Standardized Tests
4	Oral Reading	4	Word Recognition Tests
5	Word Recognition Tests	5	Miscue Analysis
6	Prescriptive Systems	6	Prescriptive Systems
7	Prescriptive Use of Readers	7	DPRI Management
8	Oral Language to Print	8	Readiness and Beginning Reading
9	Comprehension and Vocabulary	9	Word Recognition
10	Contingency Contracting	10	Vocabulary
11	DPRI Management	11	Comprehension
12	DPRI Summary	12	Total Reading Program

Additional program topics for fourth through sixth grade teachers were also suggested by field reading people. They were asked the following question to elicit suggestions. "Given the existing K-3 programs, what additional programs would fourth through sixth grade teachers need to implement diagnostic prescriptive reading instruction?" Their suggestions for program topics were: Comprehension, Study Skills Tests, The Exceptional Reader, Study Skills, Reading in the Content Fields, and Developing Life-Long Readers.

Review Research. An integral part of the course development was a review of published journal articles and authoritative opinions on current teaching techniques. This review gave structure to the program development through identifying innovative diagnostic and prescriptive instructional techniques. This process also gave content validity to the program development.

Identify Exemplary Field Teacher. Exemplary teachers needed to be located after the content was specified and innovative procedures were tentatively identified. This was done by circulating a tentative list of desired teaching procedures to the RESA directors. RESA directors would then locate teachers who were next visited by the reading component director and the television producer-director. Over 100 locations were visited for the identification of the 40 sites that were finally chosen.

Develop Program Script. The script development process began after the field film sites were selected and the review of research was completed. The first step was to develop a script outline. Using the script outline, several rough draft scripts were written. The second or third rough draft was next given to the producer-director. After consultation with the producer-director and subsequent revision, the script was given to a re-write specialist and another reading specialist at the University of Kentucky. Each of these specialists made additional suggestions for revision, and subsequent revisions followed. A final script was developed using the suggestions of the producer-director, writing specialist, and another reading specialist. Each script was rewritten between four to six times before it was produced in the studio. Although several scripts were developed concommittantly, it took from three to six months from the time the content was specified to the production of the final script in the studio.

Circulate Scripts in the Field. Scripts were circulated to representatives chosen by each RESA to review the scripts. The purpose of this circulation was to elicit local suggestions regarding subject matter content. The reading component valued the field review input in course development.

Film in Field. Three activities needed to be completed before commitments could be made for field filming. The activities were:

1. Program topic decided
2. Research review completed
3. Exemplary teachers visited.

Commitment to field filming was a critical point in program development because it meant that from this time on program development was fairly fixed and rigid. This was in part because of the time commitment and the high cost of filming.

Steps included in field filming were:

1. Initial site visit
2. Select teachers for filming
3. Plan for use of the selected teachers
4. Send letter of intent to film and parent release letter
5. Discuss via telephone the desired film sequence. This usually took four to five telephone conversations
6. Transportation arrangements
7. Develop interview questions
8. Plan film sequence with producer-director and teacher
9. Do filming
10. Check filming (at site) for content accuracy

Produce Studio Segments. Studio production was managed by the television producer-director. A good working relationship was established between the producer-director and the reading component director through each respecting the areas of expertise of the other person. The reading component director was chosen as talent for the series because the producer-director felt the content expert would have greater academic credibility. There were several times when studio production distracted from the time needed for script development. However, a longer time line for program development would have alleviated this conflict.

Edit Post Production Segments. Since this was done by television, the reading component director was only minimally involved. However, there was one major exception to this. This was the editing of the teacher interview segments. This was done primarily by the reading component director.

Develop Ancillary Materials. One of the first problems encountered in the development of ancillary materials was to set up a sequence for the accompanying activities. A critical question was where to place the television programs in the learning sequence. If they were the first activity, they would not achieve their maximum benefit. If they were the last activity, then teachers would lose enthusiasm for the program content because they already knew what they were to do. A sequence was developed that followed the following order: sensitize teachers to the program content, show them how to implement the technique, practice on the technique with other teachers, and then implement the technique with an elementary student. The activities were:

1. Pre-Program Preparation -- The student hands in a one page summary sheet of significant generalizations from the readings. These sheets are handed in before the TV programs.

2. TV Program -- The student watches each broadcast, or, if absent, reads the script and four-channel audio questions. On selected programs, the student answers four-channel audio questions.

3. Ancillary Activities -- The student participates in practice activities at the RESA sites.

4. Follow-Up Activities -- The student administers and scores tests, and teaches one K-6 student at home. The completed tests and write-ups of teaching activities are placed in the folder.

The sequence seemed to be well designed because it accomplished the objective of modifying the teachers diagnostic and prescriptive teaching strategies.

The ancillary materials were developed by a team of graduate assistants and the reading information specialist under the direction of the reading component director. One of the essential and important factors that has made for the success of the course was the close interrelationship between the ancillary materials and the television programs. In addition, the careful organization and writing of the ancillary activities facilitated learning because there is no confusion about what to do. The absence of an on-site instructor further emphasized the need for carefully developed and self-instructional ancillary materials.

Locate Live Seminar Personnel. Each of the RESAs were helpful in locating live seminar personnel. For the most part, live seminar personnel were university consultants to the project. However, classroom teachers and public school personnel were also used as seminar talent. Three criteria were informally applied for the selection of seminar personnel. They were:

1. Knowledge of reading content

2. Experience and background in reading

3. Ability to communicate effectively

These criteria proved to be effective determiners of quality seminar personnel.

3. Annotated Bibliography of Documents

Eberwein, Lowell and Paul LeVeque. Diagnostic and Prescriptive Reading Instruction. Lexington, Kentucky: University of Kentucky, 1975.

Television videotapes on diagnostic and prescriptive reading instruction. Programs include procedures for diagnosis, linking diagnosis to instructional techniques, and prescriptive instructional procedures. Intended for kindergarten through sixth grade teachers. Elementary students and classroom teachers illustrate use of procedures.

Eberwein, Lowell, Alice Martinson, Cathy Morsink, and Carol Harbison. Ancillary Materials for Diagnostic-Prescriptive Reading Instruction. Lexington, Kentucky: University of Kentucky, 1975.

Accompanying teacher activities for DPRI videotapes. Includes suggestions for teacher activities. Also lists published materials needed for implementation of course.

4. Relationships With Other Project Staff and External Agencies

The DPRI course became a reality through the efforts of numerous individuals and agencies. The reading component worked closely with management, television, instructional systems, evaluation and the RESAs.

Management was especially helpful in providing the needed services, supplies, and equipment so that the course could be developed. The management component also served as a buffer so that distractors to the production schedule were held to a minimum. Management truly facilitated the development of the course by allowing the reading component to creatively develop the course.

A very close working relationship was established between the producer-director from the television component and the director of the reading component. This relationship was built upon the principle of mutual respect for each other's area of expertise. Both persons learned to give and take for the sake of a better product.

The information systems component assisted the reading component through providing (half-time) the services of one of their reading specialists to the reading component. This specialist helped in the development of ancillary materials and the four-channel audio questions.

The evaluation component conducted formative and summative evaluation for the two reading courses. These activities are outlined in section F of this mission.

D. TIME LINES

The summary network and time lines for the DPRI K-3 course appear on the following pages. These time lines we designed to be planning tools for the developmental phase of the project. They accurately reflect the milestones of the course and start and finish dates. Formal timelines such as these were not developed for the second reading course. The timelines for this production were developed to meet Phase III reporting requirements and status reports were provided to ARC on a monthly basis during this course development.

TABLE 1

SCHEDULE FOR MISSION 1.0 ADING COURSE DEVELOPMENT

```
*************************************************************
*  S C H E D U L E   F O R   P R O J E C T   'ATSF-TV '   *
*************************************************************


PROJECT DURATION IS   573 WORK DAYS,  WORK WEEK IS 5 DAYS
WORK IS SCHEDULED TO START ON THE MORNING OF  1 JUN 1973
AND TO BE COMPLETED ON THE AFTERNOON OF 29 AUG 1975.

THE PROJECT 'ATSF-TV ' NETWORK HAS
  90 ACTIVITIES OF WHICH   90 APPEAR ON THIS REPORT OR SCHEDULE
  28 MILESTONE EVENTS OF WHICH   28  APPEAR ON THIS REPORT OR SCHEDULE

THE FOLLOWING USER-ASSIGNED CONSTRAINTS HAVE BEEN USED IN SCHEDULING.

  EVENT      600     *FINAL REPORT SUBMITTED*                IS TO OCCUR  ON  DAY    1 SEP 1975
  EVENT      900     *FINAL REPORT STARTED*                  IS TO OCCUR  ON  DAY    1 APR 1975
  EVENT     1132     *RDG COURSE GRADES ASSIGNED*            IS TO OCCUR  ON  DAY    2 SEP 1974
  EVENT     1129     *RDG PRG 12 BROADCAST*                  IS TO OCCUR  ON  DAY   20 AUG 1974
  EVENT     1119     *RDG PRG 11 BROADCAST*                  IS TO OCCUR  ON  DAY   13 AUG 1974
  EVENT     1109     *RDG PRG 10 BROADCAST*                  IS TO OCCUR  ON  DAY    6 AUG 1974
  EVENT      199     *RDG PRG 9 BROADCAST*                   IS TO OCCUR  ON  DAY   30 JUL 1974
  EVENT      189     *RDG PRG 8 BROADCAST*                   IS TO OCCUR  ON  DAY   23 JUL 1974
  EVENT      179     *RDG PRG 7 BROADCAST*                   IS TO OCCUR  ON  DAY   16 JUL 1974
  EVENT      169     *RDG PRG 6 BROADCAST*                   IS TO OCCUR  ON  DAY    9 JUL 1974
  EVENT      159     *RDG PRG 5 BROADCAST*                   IS TO OCCUR  ON  DAY    2 JUL 1974
  EVENT      149     *RDG PRG 4 BROADCAST*                   IS TO OCCUR  ON  DAY   25 JUN 1974
  EVENT      139     *RDG PRG 3 BROADCAST*                   IS TO OCCUR  ON  DAY   18 JUN 1974
  EVENT      129     *RDG PRG 2 BROADCAST*                   IS TO OCCUR  ON  DAY   11 JUN 1974
  EVENT      119     *RDG PRG 1 BROADCAST*                   IS TO OCCUR  ON  DAY    4 JUN 1974
  EVENT     1126     *RDG PRG 12 STUDIO PRODUCTION STARTE    IS TO OCCUR  ON  DAY    3 JUN 1974
  EVENT     1116     *RDG PRG 11 STUDIO PRODUCTION STARTE    IS TO OCCUR  ON  DAY   13 MAY 1974
  EVENT     1106     *RDG PRG 10 STUDIO PRODUCTION STARTE    IS TO OCCUR  ON  DAY   22 APR 1974
  EVENT      196     *RDG PRG 9 STUDIO PRODUCTION STARTED    IS TO OCCUR  ON  DAY    1 APR 1974
  EVENT      186     *RDG PRG 8 STUDIO PRODUCTION STARTED    IS TO OCCUR  ON  DAY   11 MAR 1974
  EVENT      176     *RDG PRG 7 STUDIO PRODUCTION STARTED    IS TO OCCUR  ON  DAY   12 FEB 1974
  EVENT      166     *RDG PRG 6 STUDIO PRODUCTION STARTED    IS TO OCCUR  ON  DAY   28 JAN 1974
  EVENT      156     *RDG PRG 5 STUDIO PRODUCTION STARTED    IS TO OCCUR  ON  DAY    7 JAN 1974
  EVENT      146     *RDG PRG 4 STUDIO PRODUCTION STARTED    IS TO OCCUR  ON  DAY    3 DEC 1973
  EVENT      136     *RDG PRG 3 STUDIO PRODUCTION STARTED    IS TO OCCUR  ON  DAY   12 NOV 1973
  EVENT      126     *RDG PRG 2 STUDIO PRODUCTION STARTED    IS TO OCCUR  ON  DAY   22 OCT 1973
  EVENT      116     *RDG PRG 1 STUDIO PRODUCTION STARTED    IS TO OCCUR  ON  DAY    1 OCT 1973
  EVENT        0     *PROJECT STARTED*                       IS TO OCCUR  ON  DAY    1 JUN 1973

ACTIVITIES ARE SCHEDULED TO START ON THE MORNING OF THE SPECIFIED WORKDAY OR DATE
AND TO FINISH ON THE AFTERNOON OF THE SPECIFIED WORKDAY OR DATE.

EVENTS ARE SCHEDULED FOR THE MORNING AFTER THE LAST PRECEDING ACTIVITY FINISHES,
EXCEPT FOR EVENTS OCCURRING ON THE PROJECT COMPLETION DATE.

ACTIVITIES AND EVENTS ARE SORTED ACCORDING TO   NODE NUMBERS
```

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HOLIDAYS AND NON-WORKING DAYS FOR PROJECT 'ATSF-TV '

                        4 JUL 1973
                        3 SEP 1973
                       22 NOV 1973
                       25 DEC 1973
                        1 JAN 1974
                       30 MAY 1974
                        4 JUL 1974
                        2 SEP 1974
                       21 NOV 1974
                       25 DEC 1974
                        1 JAN 1975
                       30 MAY 1975
                        4 JUL 1975
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                              E V E N T   S C H E D U L
                              *************************

 ************************************************************************************
      EVENT DESCRIPTION                                     EARLY TIME    LATE TIME

 ************************************************************************************
   C          0  *PROJECT STARTED*                           1 JUN 1973    1 JUN 1973
                 PRECEDES       100                             1             1

   C        116  *RDG PRG 1 STUDIO PRODUCTION STARTED        1 OCT 1973    1 OCT 1973
                 PRECEDES       117                             85            85

   C        119  *RDG PRG 1 BROADCAST*                       4 JUN 1974    4 JUN 1974
                 PRECEDES       129                             257           257

   C        126  *RDG PRG 2 STUDIO PRODUCTION STARTED       22 OCT 1973   22 OCT 1973
                 PRECEDES       127                             100           100

   C        129  *RDG PRG 2 BROADCAST*                      11 JUN 1974   11 JUN 1974
                 PRECEDES       139                             262           262

   C        136  *RDG PRG 3 STUDIO PRODUCTION STARTED       12 NOV 1973   12 NOV 1973
                 PRECEDES       137                             115           115

   C        139  *RDG PRG 3 BROADCAST*                      18 JUN 1974   18 JUN 1974
                 PRECEDES       149                             267           267

   C        146  *RDG PRG 4 STUDIO PRODUCTION STARTED        3 DEC 1973    3 DEC 1973
                 PRECEDES       147                             129           129

   C        149  *RDG PRG 4 BROADCAST*                      25 JUN 1974   25 JUN 1974
                 PRECEDES       159                             272           272

   C        156  *RDG PRG 5 STUDIO PRODUCTION STARTED        7 JAN 1974    7 JAN 1974
                 PRECEDES       157                             152           152

   C        159  *RDG PRG 5 BROADCAST*                       2 JUL 1974    2 JUL 1974
                 PRECEDES       169                             277           277

   C        166  *RDG PRG 6 STUDIO PRODUCTION STARTED       28 JAN 1974   28 JAN 1974
                 PRECEDES       167                             167           167

   C        169  *RDG PRG 6 BROADCAST*                       9 JUL 1974    9 JUL 1974
                 PRECEDES       179                             281           281

   C        176  *RDG PRG 7 STUDIO PRODUCTION STARTED       12 FEB 1974   12 FEB 1974
                 PRECEDES       177                             178           178

   C        179  *RDG PRG 7 BROADCAST*                      16 JUL 1974   16 JUL 1974
                 PRECEDES       189                             286           286

   C        186  *RDG PRG 8 STUDIO PRODUCTION STARTED       11 MAR 1974   11 MAR 1974
                 PRECEDES       187                             197           197

   C        189  *RDG PRG 8 BROADCAST*                      23 JUL 1974   23 JUL 1974
                 PRECEDES       199                             291           291
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C       96  *RDG PRG 9 STUDIO PRODUCTION STARTED            1   R 1974      1 APR 1974
            PRECEDES       197                                212             212

C      199  *RDG PRG 9 BROADCAST*                          30 JUL 1974     30 JUL 1974
            PRECEDES       1107                               296             296

C      500  *FINAL REPORT STARTED*                          1 APR 1975      1 APR 1975
            PRECEDES       510                                467             467

C      600  *FINAL REPORT SUBMITTED*                       29 AUG 1975     29 AUG 1975
            SINK EVENT                                        573             573

C     1106  *RDG PRG 10 STUDIO PRODUCTION STARTE           22 APR 1974     22 APR 1974
            PRECEDES       1107                               227             227

C     1109  *RDG PRG 10 BROADCAST*                          6 AUG 1974      6 AUG 1974
            PRECEDES       1119                               301             301

C     1116  *RDG PRG 11 STUDIO PRODUCTION STARTE           13 MAY 1974     13 MAY 1974
            PRECEDES       1117                               242             242

C     1119  *RDG PRG 11 BROADCAST*                         13 AUG 1974     13 AUG 1974
            PRECEDES       1129                               306             306

C     1126  *RDG PRG 12 STUDIO PRODUCTION STARTE            3 JUN 1974      3 JUN 1974
            PRECEDES       1127                               256             256

C     1129  *RDG PRG 12 BROADCAST*                         20 AUG 1974     20 AUG 1974
            PRECEDES       1131                               311             311

C     1132  *RDG COURSE GRADES ASSIGNED*                   30 AUG 1974     30 AUG 1974
            PRECEDES       500                                319             319

                  E N D   O F   E V E N T   S C H E D U L E
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                              A C T I V I T Y   S C H E D U L E
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ACTIVITY  DESCRIPTION                              DURA-   EARLY    LATE     EARLY    LATE     FREE  TOTAL
                                                   TION    START    START    FINISH   FINISH   FLOAT FLOAT
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    100  RDG PRG APPROACH DETERMINED               5      1JUN73   29JUN73   7JUN73   6JUL73    0     20
            PRECEDES      101                               1        21        5        25

    101  RDG PRG COURSE OUTLINE COMPLETED          10     8JUN73    9JUL73  21JUN73  20JUL73    0     20
            PRECEDES      102       111       121     131    6        26       15       35
                          141       151       161     171

                          181       191       1101    1111

                          1121
            PRECEDES      102       111       121     131
                          141       151       161     171

                          181       191       1101    1111
    102  RDG PRG SET DESIGNED                      10     22JUN73  17AUG73   6JUL73  30AUG73    0     39
            PRECEDES      103                               16        55       25       64

    103  RDG PRG SET CONSTRUCTED                   20     9JUL73   31AUG73   3AUG73  28SEP73   39     39
            PRECEDES      116                               26        65       45       84

    111  RDG PRG 1 LESSON OUTLINE COMPLETED        10     22JUN73  23JUL73   6JUL73   3AUG73    0     20
            PRECEDES      112                               16        36       25       45

    112  RDG PRG 1 INITIAL SCRIPT COMPLETED         8     9JUL73    6AUG73  18JUL73  15AUG73    0     20
            PRECEDES      113       114       115           26        46       33       53

    113  RDG PRG 1 GRAPHICS COMPLETED              30     19JUL73  16AUG73  29AUG73  27SEP73    0     20
            PRECEDES      115                               34        54       63       83

    114  RDG PRG 1 LOCATION FILM COMPLETED         30     19JUL73  16AUG73  29AUG73  27SEP73    0     20
            PRECEDES      115                               34        54       63       83

    115  RDG PRG 1 SHOOTING SCRIPT COMPLETED        1     30AUG73  28SEP73  30AUG73  28SEP73   20     20
            PRECEDES      116                               64        64       64       84

    117  RDG PRG 1 POST PROD EDIT COMPLETED         5     1OCT73   13MAY74   5OCT73  17MAY74    0    157
            PRECEDES      118                               85       242       89      246

    118  RDG PRG 1 FINAL REVISION COMPLETED        10     8OCT73   20MAY74  19OCT73   3JUN74  157    157
            PRECEDES      119                               90       247       99      256

    121  RDG PRG 2 LESSON OUTLINE COMPLETED        10     22JUN73  13AUG73   6JUL73  24AUG73    0     35
            PRECEDES      122                               16        51       25       60

    122  RDG PRG 2 INITIAL SCRIPT COMPLETED         8     9JUL73   27AUG73  18JUL73   6SEP73    0     35
            PRECEDES      123       124       125           26        61       33       68
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  123  RDG PRG 2 GRAPHICS COMPLETED           30    19JUL73     7SEP73    29AUG73    18OCT73      0    35
         PRECEDES      125                              34         69         63         98
  124  RDG PRG 2 LOCATION FILM COMPLETED      30    19JUL73     7SEP73    29AUG73    18OCT73      0    35
         PRECEDES      125                              34         69         63         98
  125  RDG PRG 2 SHOOTING SCRIPT COMPLETED     1    30AUG73    19OCT73    30AUG73    19OCT73     35    35
         PRECEDES      126                              64         99         64         99
  127  RDG PRG 2 POST PROD EDIT COMPLETED      5    22OCT73    20MAY74    26OCT73    24MAY74      0   147
         PRECEDES      128                             100        247        104        251
  128  RDG PRG 2 FINAL REVISION COMPLETED     10    29OCT73    27MAY74     9NOV73    10JUN74    147   147
         PRECEDES      129                             105        252        114        261
  131  RDG PRG 3 LESSON OUTLINE COMPLETED     10    22JUN73     4SEP73     6JUL73    17SEP73      0    50
         PRECEDES      132                              16         66         25         75
  132  RDG PRG 3 INITIAL SCRIPT COMPLETED      8     9JUL73    18SEP73    18JUL73    27SEP73      0    50
         PRECEDES      133      134      135            26         76         33         83
  133  RDG PRG 3 GRAPHICS COMPLETED           30    19JUL73    28SEP73    29AUG73     8NOV73      0    50
         PRECEDES      135                              34         84         63        113
  134  RDG PRG 3 LOCATION FILM COMPLETED      30    19JUL73    28SEP73    29AUG73     8NOV73      0    50
         PRECEDES      135                              34         84         63        113
  135  RDG PRG 3 SHOOTING SCRIPT COMPLETED     1    30AUG73     9NOV73    30AUG73     9NOV73     50    50
         PRECEDES      136                              64        114         64        114
  137  RDG PRG 3 POST PROD EDIT COMPLETED      5    12NOV73    27MAY74    16NOV73     3JUN74      0   137
         PRECEDES      138                             115        252        119        256
  138  RDG PRG 3 FINAL REVISION COMPLETED     10    19NOV73     4JUN74     3DEC73    17JUN74    137   137
         PRECEDES      139                             120        257        129        266
  141  RDG PRG 4 LESSON OUTLINE COMPLETED     10    22JUN73    24SEP73     6JUL73     5OCT73      0    64
         PRECEDES      142                              16         80         25         89
  142  RDG PRG 4 INITIAL SCRIPT COMPLETED      8     9JUL73     8OCT73    18JUL73    17OCT73      0    64
         PRECEDES      143      144      145            26         90         33         97
  143  RDG PRG 4 GRAPHICS COMPLETED           30    19JUL73    18OCT73    29AUG73    29NOV73      0    64
         PRECEDES      145                              34         98         63        127
  144  RDG PRG 4 LOCATION FILM COMPLETED      30    19JUL73    18OCT73    29AUG73    29NOV73      0    64
         PRECEDES      145                              34         98         63        127
  145  RDG PRG 4 SHOOTING SCRIPT COMPLETED     1    30AUG73    30NOV73    30AUG73    30NOV73     64    64
         PRECEDES      146                              64        128         64        128
  147  RDG PRG 4 POST PROD EDIT COMPLETED      5     3DEC73     4JUN74     7DEC73    10JUN74      0   128
         PRECEDES      148                             127        257        133        261
  148  RDG PRG 4 FINAL REVISION COMPLETED     10    10DEC73    11JUN74    21DEC73    24JUN74    128   128
         PRECEDES      149                             134        262        143        271
  151  RDG PRG 5 LESSON OUTLINE COMPLETED     10    22JUN73    25OCT73     6JUL73     7NOV73      0    87
         PRECEDES      152                              16        103         25        112
  152  RDG PRG 5 INITIAL SCRIPT COMPLETED      8     9JUL73     8NOV73    18JUL73    19NOV73      0    87
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      PRECEDES     153     154     155          26        113        33        120.

  153 RDG PRG 5 GRAPHICS COMPLETED          30    19JUL73    20NOV73    29AUG73    3JAN74      0    87
      PRECEDES     155                             34        121        63        150

  154 RDG PRG 5 LOCATION FILM COMPLETED     30    19JUL73    20NOV73    29AUG73    3JAN74      0    87
      PRECEDES     155                             34        121        63        150

  155 RDG PRG 5 SHOOTING SCRIPT COMPLETED    1    30AUG73     4JAN74    30AUG73    4JAN74     87    87
      PRECEDES     156                             64        151        64        151

  157 RDG PRG 5 POST PROD EDIT COMPLETED     5     7JAN74    11JUN74    11JAN74   17JUN74      0   110
      PRECEDES     158                            152        262       156        266

  158 RDG PRG 5 FINAL REVISION COMPLETED    10    14JAN74    18JUN74    25JAN74    1JUL74    110   110
      PRECEDES     159                            157        267       166        276

  161 RDG PRG 6 LESSON OUTLINE COMPLETED    10    22JUN73    15NOV73     6JUL73   29NOV73      0   102
      PRECEDES     162                             16        118        25        127

  162 RDG PRG 6 INITIAL SCRIPT COMPLETED     8     9JUL73    30NOV73    18JUL73   11DEC73      0   102
      PRECEDES     163     164     165             26        128        33        135

  163 RDG PRG 6 GRAPHICS COMPLETED          30    19JUL73    12DEC73    29AUG73   24JAN74      0   102
      PRECEDES     165                             34        136        63        165

  164 RDG PRG 6 LOCATION FILM COMPLETED     30    19JUL73    12DEC73    29AUG73   24JAN74      0   102
      PRECEDES     165                             34        136        63        165

  165 RDG PRG 6 SHOOTING SCRIPT COMPLETED    1    30AUG73    25JAN74    30AUG73   25JAN74    102   102
      PRECEDES     166                             64        166        64        166

  167 RDG PRG 6 POST PROD EDIT COMPLETED     5    28JAN74    17JUN74     1FEB74   21JUN74      0    99
      PRECEDES     168                            167        266       171        270

  168 RDG PRG 6 FINAL REVISION COMPLETED    10     4FEB74    24JUN74    15FEB74    8JUL74     99    99
      PRECEDES     169                            172        271       181        280             .

  171 RDG PRG 7 LESSON OUTLINE COMPLETED    10    22JUN73     3DEC73     6JUL73   14DEC73      0   113
      PRECEDES     172                             16        129        25        138

  172 RDG PRG 7 INITIAL SCRIPT COMPLETED     8     9JUL73    17DEC73    18JUL73   27DEC73      0   113
      PRECEDES     173     174     175             26        139        33        146

  173 RDG PRG 7 GRAPHICS COMPLETED          30    19JUL73    28DEC73    29AUG73    8FEB74      0   113
      PRECEDES     175                             34        147        63        176

  174 RDG PRG 7 LOCATION FILM COMPLETED     30    19JUL73    28DEC73    29AUG73    8FEB74      0   113
      PRECEDES     175                             34        147        63        176

  175 RDG PRG 7 SHOOTING SCRIPT COMPLETED    1    30AUG73    11FEB74    30AUG73   11FEB74    113   113
      PRECEDES     176                             64        177        64        177

  177 RDG PRG 7 POST PROD EDIT COMPLETED     5    12FEB74    24JUN74    18FEB74   28JUN74      0    93
      PRECEDES     178                            178        271       182        275

  178 RDG PRG 7 FINAL REVISION COMPLETED    10    19FEB74     1JUL74     4MAR74   15JUL74     93    93
      PRECEDES     179                            183        276       192        285

  181 RDG PRG 8 LESSON OUTLINE COMPLETED    10    22JUN73    31DEC73     6JUL73   14JAN74      0   132
      PRECEDES     182                             16        148        25        157
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 182  RDG PRG 8 INITIAL SCRIPT COMPLETED         8      9JUL73     15JAN74     18JUL73     24JAN74      0   132
        PRECEDES      183      184      185              26         158          33         165

 183  RDG PRG 8 GRAPHICS COMPLETED              30     19JUL73     25JAN74     29AUG73      7MAR74      0   132
        PRECEDES      185                                34         166          63         195

 184  RDG PRG 8 LOCATION FILM COMPLETED         30     19JUL73     25JAN74     29AUG73      7MAR74      0   132
        PRECEDES      185                                34         166          63         195

 185  RDG PRG 8 SHOOTING SCRIPT COMPLETED        1     30AUG73      8MAR74     30AUG73      8MAR74    132   132
        PRECEDES      186                                64         196          64         196

 187  RDG PRG 8 POST PROD EDIT COMPLETED         5     11MAR74      1JUL74     15MAR74      8JUL74      0    79
        PRECEDES      188                               197         276         201         280

 188  RDG PRG 8 FINAL REVISION COMPLETED        10     18MAR74      9JUL74     29MAR74     22JUL74     79    79
        PRECEDES      189                               202         281         211         290

 191  RDG PRG 9 LESSON OUTLINE COMPLETED        10     22JUN73     22JAN74      6JUL73      4FEB74      0   147
        PRECEDES      192                                16         163          25         172

 192  RDG PRG 9 INITIAL SCRIPT COMPLETED         8      9JUL73      5FEB74     18JUL73     14FEB74      0   147
        PRECEDES      193      194      195              26         173          33         180

 193  RDG PRG 9 GRAPHICS COMPLETED              30     19JUL73     15FEB74     29AUG73     28MAR74      0   147
        PRECEDES      195                                34         181          63         210

 194  RDG PRG 9 LOCATION FILM COMPLETED         30     19JUL73     15FEB74     29AUG73     28MAR74      0   147
        PRECEDES      195                                34         181          63         210

 195  RDG PRG 9 SHOOTING SCRIPT COMPLETED        1     30AUG73     29MAR74     30AUG73     29MAR74    147   147
        PRECEDES      196                                64         211          64         211

 197  RDG PRG 9 POST PROD EDIT COMPLETED         5      1APR74      9JUL74      5APR74     15JUL74      0    69
        PRECEDES      198                               212         281         216         285

 198  RDG PRG 9 FINAL REVISION COMPLETED        10      8APR74     16JUL74     19APR74     29JUL74     69    69
        PRECEDES      199                               217         286         226         295

 510  FINAL REPORT COMPLETED                    30      1APR75     21JUL75     12MAY75     29AUG75     77    77
        PRECEDES      600                               467         544         496         573

1101  RDG PRG 10 LESSON OUTLINE COMPLETED       10     22JUN73     12FEB74      6JUL73     25FEB74      0   162
        PRECEDES     1102                                16         178          25         187

1102  RDG PRG 10 INITIAL SCRIPT COMPLETED        8      9JUL73     26FEB74     18JUL73      7MAR74      0   162
        PRECEDES     1103     1104     1105              26         188          33         195

1103  RDG PRG 10 GRAPHICS COMPLETED             30     19JUL73      8MAR74     29AUG73     18APR74      0   162
        PRECEDES     1105                                34         196          63         225

1104  RDG PRG 10 LOCATION FILM COMPLETED        30     19JUL73      8MAR74     29AUG73     18APR74      0   162
        PRECEDES     1105                                34         196          63         225

1105  RDG PRG 10 SHOOTING SCRIPT COMPLETED       1     30AUG73     19APR74     30AUG73     19APR74    162   162
        PRECEDES     1106                                64         226          64         226

1107  RDG PRG 10 POST PROD EDIT COMPLETED        5     22APR74     16JUL74     26APR74     22JUL74      0    59
        PRECEDES     1108                               227         286         231         290
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     1108  ROG PRG 10 FINAL REVISION COMPLETED      10    29APR74    23JUL74    10MAY74    5AUG74    59    59
             PRECEDES     1109                               232        291        241       300

     1111  ROG PRG 11 LESSON OUTLINE COMPLETED      10    22JUN73     5MAR74     6JUL73   18MAR74     0   177
             PRECEDES     1112                                16        193         25       202

     1112  ROG PRG 11 INITIAL SCRIPT COMPLETED       8     9JUL73    19MAR74    18JUL73   28MAR74     0   177
             PRECEDES     1113      1114      1115            26        203         33       210

     1113  ROG PRG 11 GRAPHICS COMPLETED            30    19JUL73    29MAR74    29AUG73    9MAY74     0   177
             PRECEDES     1115                                34        211         63       240

     1114  ROG PRG 11 LOCATION FILM COMPLETED       30    19JUL73    29MAR74    29AUG73    9MAY74     0   177
             PRECEDES     1115                                34        211         63       240

     1115  ROG PRG 11 SHOOTING SCRIPT COMPLETED      1    30AUG73    10MAY74    30AUG73   10MAY74   177   177
             PRECEDES     1116                                64        241         64       241

     1117  ROG PRG 11 POST PROD EDIT COMPLETED       5    13MAY74    23JUL74    17MAY74   29JUL74     0    49
             PRECEDES     1118                               242        291        246       295

     1118  ROG PRG 11 FINAL REVISION COMPLETED      10    20MAY74    30JUL74     3JUN74   12AUG74    49    49
             PRECEDES     1119                               247        296        256       305

     1121  ROG PRG 12 LESSON OUTLINE COMPLETED      10    22JUN73    25MAR74     6JUL73    5APR74     0   191
             PRECEDES     1122                                16        207         25       216

     1122  ROG PRG 12 INITIAL SCRIPT COMPLETED       8     9JUL73     8APR74    18JUL73   17APR74     0   191
             PRECEDES     1123      1124      1125            26        217         33       224

     1123  ROG PRG 12 GRAPHICS COMPLETED            30    19JUL73    18APR74    29AUG73   29MAY74     0   191
             PRECEDES     1125                                34        225         63       254

     1124  ROG PRG 12 LOCATION FILM COMPLETED       30    19JUL73    18APR74    29AUG73   29MAY74     0   191
             PRECEDES     1125                                34        225         63       254

     1125  ROG PRG 12 SHOOTING SCRIPT COMPLETED      1    30AUG73    31MAY74    30AUG73   31MAY74   191   191
             PRECEDES     1126                                64        255         64       255

     1127  ROG PRG 12 POST PROD EDIT COMPLETED       5     3JUN74    30JUL74     7JUN74    5AUG74     0    40
             PRECEDES     1128                               256        296        260       300

     1128  ROG PRG 12 FINAL REVISION COMPLETED      10    10JUN74     6AUG74    21JUN74   19AUG74    40    40
             PRECEDES     1129                               261        301        270       310

C    1131  ROG PRG MATERIALS GRADED                  8    20AUG74    20AUG74    29AUG74   29AUG74     0     0
             PRECEDES     1132                               311        311        318       318

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E. RESOURCE ALLOCATIONS: Fiscal resources required for this component are specified in the budget section. The staff responsible for this mission were as follows:

Component Director: Lowell Eberwein

Reading Information Specialist: Alice Martinson

Graduate Assistants: Carol Harbison (Phase III)

Cathy Morsink (Phase II)

F. SUMMARY OF EVALUATION ACTIVITIES

Formative Evaluation: The Evaluation Component helped the Reading Component refine its products and procedures and documented its development activities by constructing convenient response and record-keeping forms and performing experimental studies to detect procedural problems that needed to be resolved before the administration of the course. More specifically, the Evaluation Component:

*1.7.1.a. provided data on standardized reading tests administered and teacher-pupil ratio in the target region;

b. developed site-visit forms for the reading instructor to use to record content suggestions made by people in the field and self-observations on techniques used for teaching elementary reading in the schools in the region, so that he could shape the reading course to meet the needs of the target population;

1.7.2. met with the reading instructor to refine course objectives and drafts of scripts, to have the unit and post questions checked for accuracy, to suggest alternative procedures for scheduling of class sessions, testing, and grading, to explain evaluation procedures, and to obtain information for documenting the development of the reading course;

*Numbers refer to specific activities outlined in the evaluation mission description and thus are non-consecutive.

1.7.3. assisted in the development of a set of cognitive and affective behavioral objectives for each of the 17 pre-recorded programs and the 8 live seminars;

1.7.4.a. developed scale for the rating of drafts of scripts by subject-matter experts to determine whether objectives were appropriate for a course in teaching elementary reading, whether the coverage of the topics was adequate, and whether the facts were accurate;

b. developed a scale for the rating of drafts of scripts by agents (classroom teachers) to determine whether a group similar to the target audience thought the ideas were clearly presented and whether they were convinced of the relevancy and usefulness of the ideas and techniques;

1.7.5. produced unit and posttest questions and instruments measuring user-satisfaction of pretaped programs, seminars, ancillary materials;

1.7.6. had reading test items checked by a subject-matter expert and an expert in test construction and had all instruments assessed by the Instrument Review Committee before sending them to ARC for approval;

1.7.8. performed an experimental study with university students to determine the effectiveness of the separate learning activities with these 7 groups, one receiving the posttest alone; the written script prior to the posttest; a lecture on the script prior to posttest; the video prior to the posttest; the video plus written four-channel questions prior to the posttest; the video, plus four-channel audio presentation prior to the posttest; the video plus four-channel audio presentation plus ancillary activities prior to the posttest;

1.7.10. prepared talks, handouts, and manuals to explain evaluation activities of site coordinators and cooperating faculty in the reading course;

Summative Evaluation: The Evaluation Component assessed the effectiveness of the reading course and the reading component by measuring (1) student reaction to the course package, the separate learning activities and the equipment; (2) subject-matter expert reaction to particular course products; (3) student achievement of course objectives, achievement of reading component goals and reading-related goals of other components; (4) the additive impact of activities in the learning sequence; (5) the effect of the courses on classroom practice; and (6) the cost of the course and other comparable courses.

More specifically, the Evaluation Component:

1.7.11.a. had the teachers enrolled in the reading course rate at the end of each session the quality of the learning activities;

b. had teachers rate the quality of the reading seminars;

1.7.13.a. used data from items on a teaching practices questionnaire to find out what participating teachers saw as reading needs in local schools and data from a preliminary study to find out what the educational and demographic characteristics of the population were -- information necessary in documenting need and sampling;

b. administered a pretest to measure entrance-level ability and a posttest to measure exit-behavior in order to gather data to determine the impact of the course on the teacher;

1.7.14. admininstered pre and posttest on instrument designed to measure attitudes towards course objectives;

1.7.15.a. required the administration during the summer of multiple-choice unit tests before and after each program unit to determine the effectiveness of each unit;

b. prepared optical scanning response forms and developed computer cards for analysis of items by computer program and procedures for computerized scoring, data storage and retrieval, and data analysis;

1.7.16. performed an in-field study on two reading units to assess the additive impact of the learning activities by dividing each class at each site into three groups and giving the unit test to group 1 after the video, group 2 after the four-channel, and group 3 after the ancillary activities;

1.7.17. gathered information on teacher reaction to the course from course evaluation forms;

1.7.18. evaluated the success of the Reading Component in meeting its objectives;

1.7.19. assessed the success of the Evaluation Component in evaluating reading products and procedures by having the students and consulting faculty rate the evaluation forms and procedures;

1.7.20. documented the success of RESA personnel in teacher recruitment for the reading course, adequacy of classroom site, equipment installation and maintenance, acquisition, distribution and processing of materials, promptness and completion of evaluation procedures;

1.7.21. evaluated the adequacy of the delivery of 29 reading videos and 18 four-channel audios via satellite with user four-channel audios and quality of television viewing forms the students filled out and down-time and quality of the viewing area forms the site-monitors filled out;

1.7.22. published four technical reports on the reading courses;

1.7.23. assessed the cost of the products developed for the reading course in relation to the cost of other in-service reading courses of similar quality;

1.7.25. ascertained the effect of the course on elementary students by designing, implementing, and summarizing follow-up data on former students from the DPRI (K-3) course.

Evaluation findings related to the reading component may be found in the following Technical Reports:

TR#3 Formative Evaluation Study for Diagnostic and Prescriptive Reading Course

TR#6	User Ratings of Instructional Activities: Diagnostic and Prescriptive Reading Instruction (Summer, 1974)
TR#8	User Achievement: Diagnostic and Prescriptive Reading Instruction Course (Summer, 1974)
TR#12	Summative Evaluation of Diagnostic and Prescriptive Reading Instruction K-6 Course (Spring, 1975)

G. RECOMMENDATIONS: Recommendations for development of future satellite courses are:

1. One of the major concerns of the reading component has been quality control. This has caused some difficulties in AESP because of the:

   a. short time line

   b. limited staff

   c. limited time for interaction with other professionals

   It is easy to recognize that each of these have a common denominator... money. However, it is this interaction between the level of funding and quality control that is important.

   On one hand, the reading component director felt a professional responsibility to produce a quality product, but was frustrated by time pressures. However, it is also recognized that there is some truth in the cliche, "it will take as long to produce something as you have time." Yet given the constraint of any funding level, it should be recognized that a quality product is concomitantly related to quality and number of staff, and amount of time for development.

   In relation to staffing, it is the reading component director's feeling that content personnel should not work in isolation on program content. The significance of this position is found in the problem that personal bias can easily become a part of the programs if the instructor works in isolation. Therefore, time must be included for interaction with other professionals. Divergent points of view were invited in the reading component by asking other University of Kentucky faculty to respond to scripts. Inviting other points of view is particularly important in a product that has as wide a geographic distribution, as the AESP programs.

   The reading component director has no prescriptive answer to give because this problem is directly or inadvertantly resolved at other administrative levels within a project. For example, value judgements in relation to funding are made which directly influence the quality of the product. It is only recommended that a high financial priority be allotted for product development in relation to: amount of time for development, interaction with field users of the product, and number and quality of staff. It should be remembered that a quality product will in the end be the lasting spokesman for a project.

2. Field involvement and classroom filming should be included in any future programs. Classroom filming was important in this inservice course because the teachers in the film served as a model for the observing teachers to follow in their own classrooms. In addition, it is recommended that the filming should be done over a wide geographic area. The wide geographic area minimizes the effects of a narrow and provincial approach to a regional educational problem. The significance of the wide geographic area for filming is found in the fact that teachers identify with a product if it includes someone from their area.

3. Some non-provincial agency should be developed to assist school systems, states, and regions to develop products for assistance with regional and national problems. The reason for this is that states think provincially and very seldom allocate funds for the development of products for assistance with a common problem. States characteristically allocate a high percentage of their funds to personnel rather than products. The satellite and federal funding forced the numerous federal, state, and local agencies to think regionally about their common problems and to develop a product to satisfy that need.

4. The series of steps outlined in the production method were a sound procedure for development of an inservice teacher training course. It is recommended that this procedure be used as a model for development of future satellite courses.

5. The type and sequence of site activities for the teachers were educationally sound and it is recommended that these activities be used as a model for additional satellite programs. The activities were:

    a. sensitize the teachers to the program content through readings

    b. view videotape and watch other teacher-models implementing procedures

    c. review and reinforce the content presented with four-channel audio

d. on-site activities for practice of the procedure

e. follow-up activities with an elementary student to learn how the procedure is implemented

MISSION 2.0 CAREER EDUCATION COURSE DEVELOPMENT

A. OBJECTIVE: To develop a televised course in career education for 300 teachers of students in grades 1 through 6 for broadcast via the Applied Technology Satellite.

B. OUTCOMES: Twelve half-hour video tapes, four live video seminars, and supporting materials for a course in career education were developed.

C. MISSION DESCRIPTION:

1. Course Outline

Program 1: The Concept of Career Education

This introductory program is designed to demonstrate the need for career education and to offer a "basic tenets" definition of it. In so doing, it touches upon both educational and general social needs, recent history of career education, several prominent definitions and the overall philosophy of career education.

Participants:

Gene Bottoms - Director, Division of Program and Staff Development for the Georgia State Department of Education

Gino Carlotti - Vocational Counselor, Erie, PA.

Grant Venn - Professor of Education, Georgia State University

Program 2: A Complete Career Education Program

In this program selected examples of career education oriented classroom sessions demonstrate the actual implementation of this concept throughout the school system (kindergarten through 12th grade and beyond). The specificity of these examples enhance the working definition of career education from the previous program and as an overview, introduce items to be treated later in the course (e.g. child development and career development theories and sequencing). This presentation should leave the student with the basics of the total scope of career education from awareness to exploration to preparation and beyond high school.

Participants:

Elizabeth Alday - Elementary Coordinator, Falconor
County Schools, New York

Gene Bottoms
Gino Carlotti

Gary DuBois - Director of Alternative School,
Cassadagau, New York

Darryl Laramore - Supervisor of Vocational Guidance,
Rockville, Maryland
Phillip Laguidice - District Superintendent, BOCES,
New York

Grant Venn

Program 3: Job Clustering: A Tool for Career Education

This presentation demonstrates the need to order and sequence the vast world of work for students. Clustering is introduced and defined as a major tool for the teacher to use in this effort. Although several types of available clustering systems are mentioned, the major portion of the program is devoted to offering the audience a single clustering system to use as a guide to career education in their own classroom.

Participants:

Elizabeth Alday

Gino Carlotti

Ken Hoyt - Director, U.S. Office of Career Education

Darryl Laramore

Grant Venn

Program 4: Integrating Career Education into the Curriculum

This program gives the detailed steps needed for integrating a single career education experience into the academic curriculum. As a "how to" primer it shows the teacher how to establish career education goals and how to infuse these into academically oriented lesson plans.

Participants:

Ken Hoyt

Darryl Laramore

Program 5: Total Curriculum Integration

Following the instruction offered specifically in the previous program, this program is designed to reinforce and build upon that information and those efforts. In doing so, it offers a set of examples that represent total curriculum integration in an ideal situation, giving the teacher a view of integration in a complete curriculum unit.

Participants:

Owen Collins - Career Education Project Director,
Hazard, Kentucky

Darryl Laramore

Program 6: The Collection and Utilization of Instructional Materials

This presentation focuses on various types of resource materials available to the classroom teacher for use in infusing career education into the classroom. Concerning commercial materials available, the program offers guidelines on how to assess and utilize film strips, study kits. Too, the program presents a host of ideas and resources the teacher can use in creating his/her own materials for career education.

Participants:

Elizabeth Alday
Gene Bottoms
Ken Hoyt
Darryl Laramore

Program 7: Community Resources

This program asserts the importance of community involvement as both a valid input to educational change and as an extremely fruitful resource area. It focuses on the actual classroom use of the community as a resource and the importance of the teacher's role as a liaison between the community and the student.

Participants:

Elizabeth Alday
Gary DuBois
Gino Carlotti
Ken Hoyt
Darryl Laramore

Phillip Laguidice
Earl Smith
Advisory Board Members
Parents
Principals
Teachers

Program 8: Implementation Strategy (for the School System)

This presentation describes the roles that must be assumed by everyone in the school in planning and implementing a total career education program. Beyond the individual classroom teacher, this would include curriculum task force committees, guidance counselors and administration personnel.

Participants:

Elizabeth Alday
Gene Bottoms
Gino Carlotti
Darryl Laramore
Sidney Marland - President, CEEB
Earl Smith - District Superintendent of Schools, Cattaraugus N.Y.
Advisory Board Members
Teachers
School Superintendents

Program 9: Attitudes About Change

This program acquaints the teacher with the attitudes, both pro and con, that he or she must, at some time, deal with. As career education necessitates a form of educational change, it must invite and contend with the feelings, attitudes, and convictions of everyone -- from the teacher in the next classroom to the community at large. It is the purpose of this program to display many of these points of view, and thus, aid each student in formulating his or her own ideas.

Participants:

Henry Durant - Director of Career Education,
McKeesport, PA.

Senator William D. Hathaway, Maine

Ken Hoyt
Darryl Laramore
Phillip Laguidice
Sidney Marland

Dan Nasman - Career Education Project Coordinator,
San Diego, California

Jonathan Osborn - Director, Comprehensive Care and
Placement, Morristown, Vermont

Nurses
Principals
School Board Members
Teachers

Program 10: Dealing with Educational Change

Building on information from previous programs, this program demonstrates the necessity of community involvement in effectively dealing with concerns about educational change.

Participants:

Robert Arceneaux - Superintendent, Adult and Career Education, Lafayette, LA.

Henry Durant

Brian Fluck - Director of Vocational Education, Endsburg, PA.

Ken Hoyt
Parents
School Superintendents
Teachers

Program 11: Special Interests and Career Education

Related to attitudes, this program centers on the needs of special concern groups such as labor, management, minority groups, and exceptionsl children. These are areas that must be considered in any plan for educational change.

Participants:

Owen Collins
Henry Durant
Ken Hoyt
Dan Nasman
Teachers

Program 12: The Rewards of a Comprehensive Career Education Program

This presentation illustrates the implications of career education for the ultimate consumer, the student.

Participants:

Gene Bottoms
Marie Burrow - Director of Career Education, St. Louis, MO.
Ken Hoyt
Darryl Laramore
Sidney Marland
John Osborn
Grant Venn
Principals

SUMMARY LIST OF PARTICIPANTS:
CAREER EDUCATION IN THE ELEMENTARY SCHOOL

Elizabeth Alday:	Elementary School Coordinator, Falconor County Schools, New York State
Robert Arceneaux:	Superintendent, Adult and Career Education, Lafayette, Louisiana
Gene Bottoms:	Director, Division of Program and Staff Development for the Georgia State Department of Education
Marie Burrow:	Director of Career Education, St. Louis, Missouri
Gino Carlotti:	Vocational Counselor, Erie, Pennsylvania
Owen Collins:	Career Education Project Director, Hazard, Kentucky
Gary DuBois:	Director of Alternative School, Cassadagau, New York
Henry Durant:	Director of Career Education, McKeesport, Pennsylvania
Brian Fluck:	Director of Vocational Education, Endsburg, Pennsylvania
Senator William D. Hathaway	Maine
Ken Hoyt:	Director, U.S. Office of Career Education
Phillip Laguidice:	District Superintendent, BOCES, New York State
Darryl Laramore:	Supervisor of Vocational Guidance, Montgomery County Public Schools, Rockville, Maryland
Sidney Marland:	President, CEEB
Dan Nasman:	Career Education Project Coordinator, San Diego, California
Jonathan Osborn:	Director, Comprehensive Care and Placement, Morristown, Vermont
Earl Smith:	Superintendent
Grant Venn:	Professor of Education, Georgia State University

2. Production Method

In developing initial plans for the course, the following outline for Course Development Model Activities was used.

Needs Assessment

- Identify Priority Educational Goals
  - ARC Education Committee Report
  - Identify existing priority goal statements
  - Review literature
  - Conduct survey to define priorities
- Definition of Priority Goals
  - Review literature
  - Identify existing definitions
  - Survey completed and active projects
  - Conduct survey to elicit definitions
- Baseline Data
  - ARC Teacher Characteristics Report
  - Conduct survey to define school staff needs

Content Definition

- Review literature
- Conduct task analysis
- Relate content to research
- Identify research voids
- State hypotheses and assumptions where voids exist

Content Validation

- Write validation plan
- Identify content specialists
- Develop instrumentation
- Survey specialists to validate content

Course Definition

- Write course design specifications
- Write course goals
- Develop topical outline
- Write session objectives
- Develop detailed session plans

Validation of Course Description

Review course design specifications
(contractor, university staff, school staff,
minority groups, community groups)

Review topical outline
(contractor, university staff, school staff,
minority groups, community groups)

Review Detailed Session Plans
(contractor, university staff, school staff,
minority groups)

Course Development

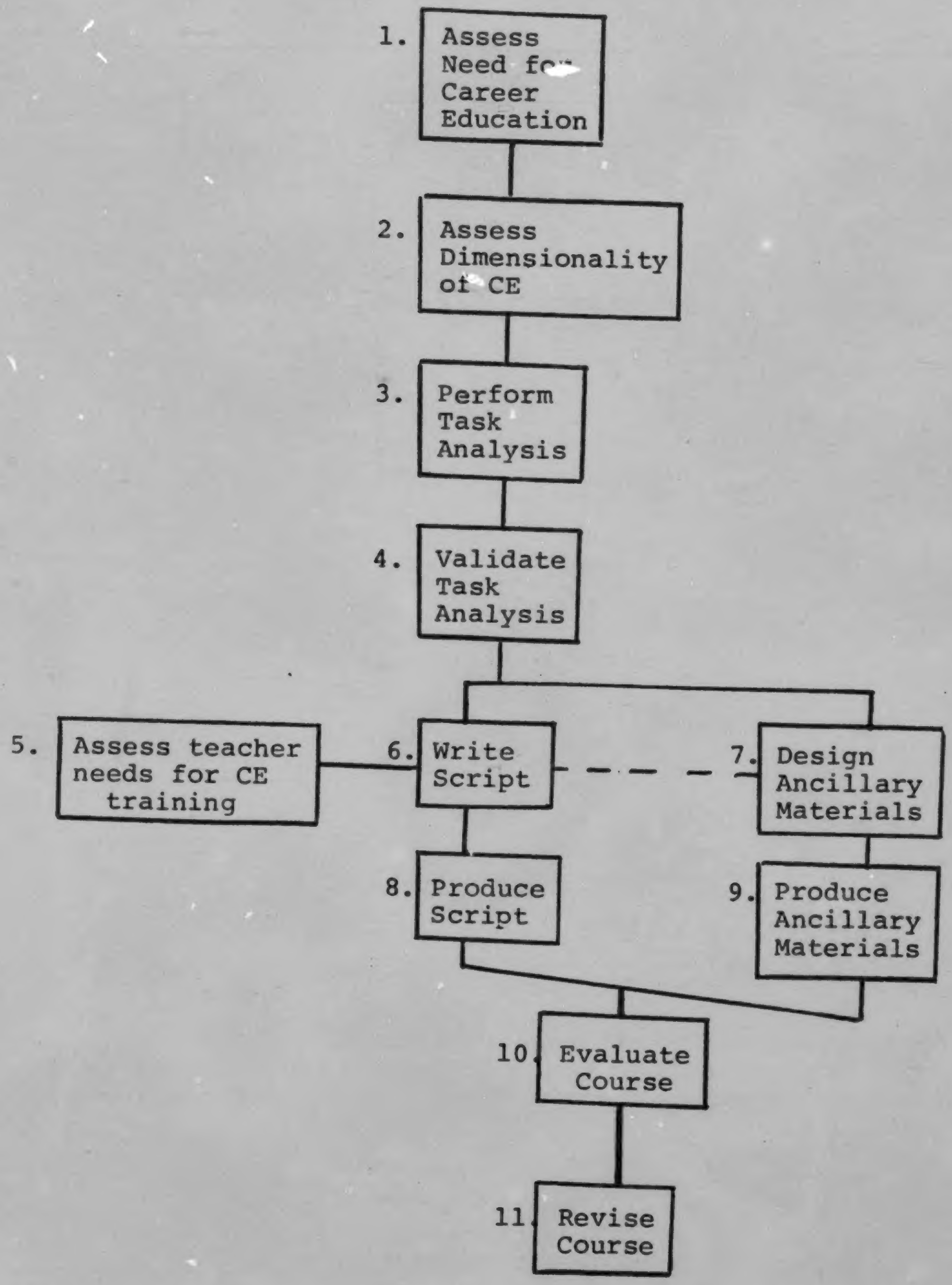
Write scripts
Develop laboratory materials
Develop supplementary materials

Course Production

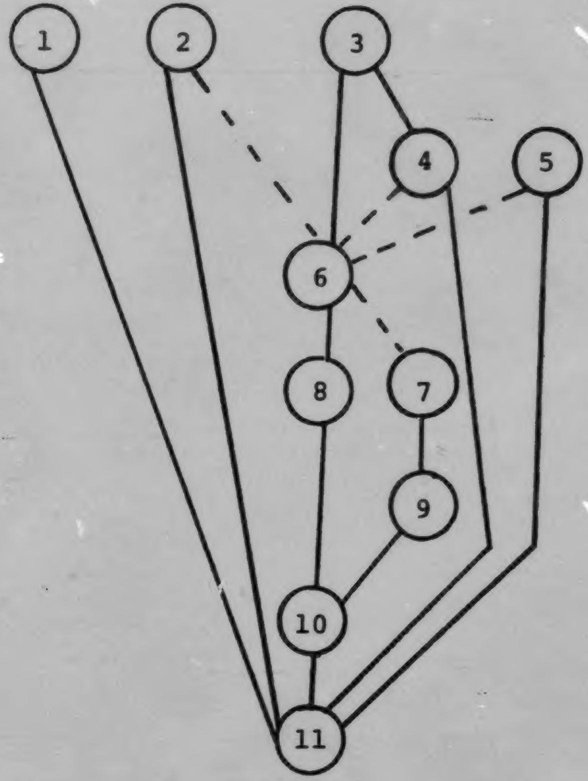
Course Validation

Course Revision

Translated into Work Flow: 'ideal path)


1. Assess Need for Career Education
2. Assess Dimensionality of CE
3. Perform Task Analysis
4. Validate Task Analysis
5. Assess teacher needs for CE training
6. Write Script
7. Design Ancillary Materials
8. Produce Script
9. Produce Ancillary Materials
10. Evaluate Course
11. Revise Course

(Most Likely Path)



When the topical outline for the course was developed, research for each topic was begun by a core research staff and script writing began. The script writing process included an original draft, and a review of that draft primarily by the television component producer-director for career education. Each script was reviewed once more after an initial rewrite.

Fifteen field reviewers were identified, and copies of program scripts were mailed to them for their suggestions and input. Based upon their comments, scripts underwent yet another revision.

Ancillary materials were developed by a core group consisting of Cathy Whitton (materials developer), Mary Clarkson (research and processing specialist), and Alice Martinson (reading information specialist).

Four live, interactive seminars were planned and broadcast at strategic intervals during the summer career education course. The purpose of each seminar was to gather a panel of experts in the field of career education to address the concerns, problems, and comments of course participants. Each seminar was hosted and moderated by David L. Larimore, Director of the Resource Coordinating Center. The broadcast date, topic and panel members for each seminar are outlined below.

Seminar 1, broadcast on July 16, 1974, dealt with the major topic of curriculum integration. Issues discussed included practical suggestions for classroom/school integration, administrative and peer support, curriculum advisory groups, teacher work load, and the concepts and principles of career education. Guests for the seminar were Joel Smith (Cobb County, Georgia, Career Education Project), Grant Venn (Georgia State University) and Elizabeth Alday (Curriculum Coordinator, New York State).

Seminar 2, broadcast on August 6, addressed the problems of program planning in implementing career education, particularly the problems that course participants had encountered to date -- in effect, what had sounded nice in theory but did not actually work for them in their particular situations. Participants during this seminar included William Brish (Maryland RESA), Barbara Preli (Director, Career Education Project, Louisville, Kentucky), Richard Harwood (University of Virginia), and Owen Collins (Career Education Project, Hazard, Kentucky).

Seminar 3, broadcast on August 13, discussed career education's implications for special groups/concerns. Specifically, topics included labor/industry involvement, community involvement, taxpayer reaction, minority groups, and stereotyping. Panel members were Ella Bowen (University of Illinois), Claude Brown (Teamster's Union), and W. C. Hembley (Mayor, Pikeville, Kentucky).

Seminar 4 was the final program of the summer series, broadcast on August 20, 1974. This seminar was designed to be a summary discussion of career education and its impact, and to address final concerns, comments of course participants. Guests for this seminar were Barbara Preli and Kenneth Hoyt (Director, U. S. Office of Career Education).

A summary list of seminar participants is presented on the following page.

As of August 20, 1974, a total of 12 half-hour color videotapes, and accompanying ancillary materials had been developed and presented, and four live, interactive seminars had been broadcast, all according to schedule.

SUMMARY LIST OF PARTICIPANTS:
CAREER EDUCATION IN THE ELEMENTARY SCHOOL - LIVE SEMINARS

Elizabeth Alday
Elementary Coordinator
Falconor County Schools
New York State

Ella Bowen
Bureau of Educational Research
University of Illinois
Champaign-Urbana, Illinois

William Brish
Maryland RESA
Cumberland, Maryland

Claude Brown
Research and Education Director
Teamsters Local #688
St. Louis, Missouri

Owen Collins, Director
Career Education Project
Hazard, Kentucky

Richard Harwood
Office of Career Planning and Placement
University of Virginia
Charlottesville, Virginia

W. C. Hembley, Mayor
Pikeville, Kentucky

Kenneth B. Hoyt, Director
U. S. Office of Career Education
Washington, D. C.

Barbara Preli, Director
Life-Centered Career Education Program
Louisville Public Schools
Louisville, Kentucky

Joel Smith
Cobb County Career Education Project
Cobb County, Georgia

Grant Venn
Professor of Education
Georgia State University
Atlanta, Georgia

3. Annotated Bibliography of Developed Documents

The following documents have been developed by career education component staff members and other project personnel as part of the project's mission to develop a K-6 career education course.

Gillette, Peter, Bowling, Betty, et. al. Scripts for twelve one-half hour videotaped instructional units in elementary career education. For list of titles, see below.

______________. Twelve one-half hour color videotaped instructional units in elementary career education. Included in the videotapes are interviews with career education authorities, practitioners, parents, teachers, community and family members; location filming done at selected classroom sites showing students/teachers practicing career education activities; career education reources, materials; and ideas for implementation of and strategies for working with career education concepts. Titles are listed below.

List of titles in elementary career education series:

1. The Concept of Career Education
2. A Complete Career Education Program
3. Job Clustering
4. Integrating Career Education Into the Curriculum
5. Total Curriculum Integration
6. Collection and Utilization of Instructional Materials
7. Community Resources
8. Implementation Strategy for the School System
9. Attitudes about Change
10. Dealing with Educational Change
11. Special Interests and Career Education
12. Rewards of a Comprehensive Career Education Program

Martinson, Alice, et. al. Yellow Pages of the Working World. A directory listing employment establishments within the environs of the RESAs participating in the AESP. The directory serves as a resource for curriculum development to participants in the career education course and as an instructional resource by identifying field trip possibilities, resource people, work exploration/study opportunities for students, resource materials/supplies for teachers, and resource facilities. Material compiled and forwarded to RCC for collective documentation and distribution

Whitton, Catherine, Martinson, Alice, and Clarkson, Mary, et. al. Ancillary Materials for Career Education in the Elementary School. Laboratory materials distributed to each course participant. Packets contain both individual and group activities, resource lists, suggestions for classroom activities.

4. Outline of Working Relationships

Other Project Staff - The career education component worked and interacted with all other RCC components on a daily basis. The closest relationship was with the television component for actual production of career education programs. Component staff also worked with the management component to assure compliance of the component with overall project objectives; with the evaluation component in designing evaluation instruments for the career education course and in analysis of results indicated by those instruments; with the four-channel audio component in designing appropriate four-channel scripts for production; and with the information systems component in the provision of efficient information systems to career education course participants. Interaction with reading component staff was of a less vital nature, since that interaction did not have a direct influence upon completion of the career education mission. Constant communication with other project components was essential to the success of the career education course development.

Interaction was also maintained on a regular basis with RESA personnel, beginning with the inception of the project when RESA input was a major factor in determining direction of course materials. Throughout the career education course, communication with RESA personnel and site coordinators was maintained by telephone, written communications, by periodic project meetings, and by site visits by component staff. Component staff also encouraged course participants to interact with the component whenever necessary or desired. Numerous letters and telephone calls were received from course participants, and, during visits to RESA classroom sites by component staff, participants availed themselves of the opportunity to interact directly with staff members. Constant communication with RESA personnel, expecially site coordinators, was demanded by course structure to insure that course procedures were understood and carried out effectively by both the RESA personnel and the RCC personnel involved.

Project meetings, correspondence and telephone conversations provided necessary communication with ARC. Relationship of the career education component to ARC was handled, for the most part, through the RCC management component.

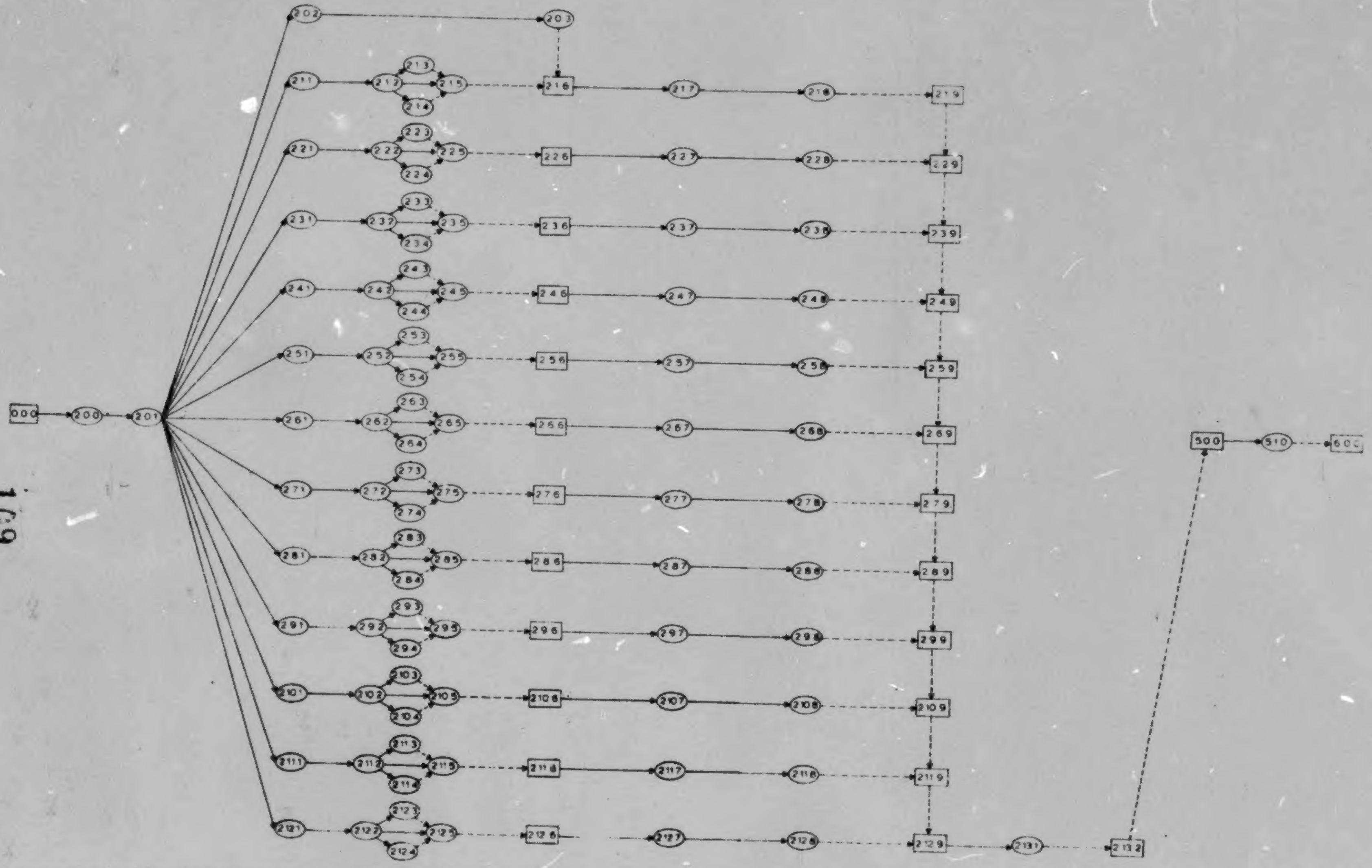
2

External Agencies - The career education component staff participated in meetings with representatives of several external agencies, including members of RCC site visit teams, external evaluation groups, and many other visitors to the project, both official and informal. A sampling of those visitors included representatives of the Kentucky State Department of Education, the Ministry of Education of Brazil, French Public Television, etc. Component staff also maintained communication with national career education authorities, including persons like Kenneth Hoyt, Director of the U.S. Office of Career Education. In addition, component staff also worked extensively with the Life-Centered Career Education Program in Louisville, Kentucky, public schools; and with the Fayette County, Kentucky, public school system in pilot testing elementary course materials.

During seminar presentations (four during the elementary course and the 16 which comprised the fall course), component staff interacted with career education authorities and practitioners across the country, as well as with course participants who came to the RCC to appear as seminar guests.

D. TIME LINES

The time lines appear on the following pages for the Career Education Component. These time lines were designed to be planning tools for the developmental phase of the project. They accurately reflect the milestones of the project and start and finish dates.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APPALACHIAN APPLIED TECHNOLOGY SATELLITE PROJECT	SUMMARY NETWORK FOR MISSION 2.0 —	START: 1 JULY 1973 FINISH. 30 SEPT. 1974	FIG 2.0
UNIVERSITY OF KENTUCKY	CAREER EDUCATION COURSE DEVELOPMENT	PROJECT DIRECTOR: LARIMORE NETWORK DEVELOPER: BLACKHURST	28 JUNE 73

SCHEDULE FOR MISSION 2.0 CAREER EDUCATION COURSE DEVELOPMENT

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************************************************************
*  S C H E D U L E     F O R     P R O J E C T     'ATSF-TV '  *
************************************************************


PROJECT DURATION IS   573 WORK DAYS,  WORK WEEK IS 5 DAYS
WORK IS SCHEDULED TO START ON THE MORNING OF  1 JUN 1973
AND TO BE COMPLETED ON THE AFTERNOON OF 29 AUG 1975.


THE PROJECT 'ATSF-TV ' NETWORK HAS
  90 ACTIVITIES OF WHICH   90 APPEAR ON THIS REPORT OR SCHEDULE
  28 MILESTONE EVENTS OF WHICH   28  APPEAR ON THIS REPORT OR SCHEDULE


THE FOLLOWING USER-ASSIGNED CONSTRAINTS HAVE BEEN USED IN SCHEDULING.

    EVENT       600          *FINAL REPORT SUBMITTED*               IS TO OCCUR  ON  DAY   1 SEP 1975
    EVENT       500          *FINAL REPORT STARTED*                 IS TO OCCUR  ON  DAY   1 APR 1975
    EVENT      2132          *CAREER ED COURSE GRADES ASSIGNED*     IS TO OCCUR  ON  DAY  12 SEP 1974
    EVENT      2129          *CAREER ED 12 BROADCAST*               IS TO OCCUR  ON  DAY  29 AUG 1974
    EVENT      2119          *CAREER ED 11 BROADCAST*               IS TO OCCUR  ON  DAY  22 AUG 1974
    EVENT      2109          *CAREER ED 10 BROADCAST*               IS TO OCCUR  ON  DAY  15 AUG 1974
    EVENT       299          *CAREER ED 9 BROADCAST*                IS TO OCCUR  ON  DAY   8 AUG 1974
    EVENT       289          *CAREER ED 8 BROADCAST*                IS TO OCCUR  ON  DAY   1 AUG 1974
    EVENT       279          *CAREER ED 7 BROADCAST*                IS TO OCCUR  ON  DAY  25 JUL 1974
    EVENT       269          *CAREER ED 6 BROADCAST*                IS TO OCCUR  ON  DAY  18 JUL 1974
    EVENT       259          *CAREER ED 5 BROADCAST*                IS TO OCCUR  ON  DAY  11 JUL 1974
    EVENT       249          *CAREER ED 4 BROADCAST*                IS TO OCCUR  ON  DAY  27 JUN 1974
    EVENT       239          *CAREER ED 3 BROADCAST*                IS TO OCCUR  ON  DAY  20 JUN 1974
    EVENT       229          *CAREER ED 2 BROADCAST*                IS TO OCCUR  ON  DAY  13 JUN 1974
    EVENT       219          *CAREER ED 1 BROADCAST*                IS TO OCCUR  ON  DAY   6 JUN 1974
    EVENT      2126          *CAR ED 12 STUDIO PRODUCTION STARTED   IS TO OCCUR  ON  DAY  10 JUN 1974
    EVENT      2116          *CAR ED 11 STDUIO PRODUCTION STARTED   IS TO OCCUR  ON  DAY  20 MAY 1974
    EVENT      2106          *CAR ED 10 STUDIO PRODUCTION STARTED   IS TO OCCUR  ON  DAY  29 APR 1974
    EVENT       296          *CAR ED 9 STUDIO PRODUCTION STARTED*   IS TO OCCUR  ON  DAY   8 APR 1974
    EVENT       286          *CAR ED 8 STUDIO PRODUCTION STARTED*   IS TO OCCUR  ON  DAY  18 MAR 1974
    EVENT       276          *CAR ED 7 STUDIO PRODUCTION STARTED*   IS TO OCCUR  ON  DAY  25 FEB 1974
    EVENT       266          *CAR ED 6 STUDIO PRODUCTION STARTED*   IS TO OCCUR  ON  DAY   4 FEB 1974
    EVENT       256          *CAR ED 5 STUDIO PRODUCTION STARTED*   IS TO OCCUR  ON  DAY  14 JAN 1974
    EVENT       246          *CAR ED 4 STUDIO PRODUCTION STARTED*   IS TO OCCUR  ON  DAY  10 DEC 1973
    EVENT       236          *CAR ED 3 STUDIO PRODUCTION STARTED*   IS TO OCCUR  ON  DAY  19 NOV 1973
    EVENT       226          *CAR ED 2 STUDIO PRODUCTION STARTED*   IS TO OCCUR  ON  DAY  29 OCT 1973
    EVENT       216          *CAR ED 1 STUDIO PRODUCTION STARTED*   IS TO OCCUR  ON  DAY   8 OCT 1973
    EVENT         0          *PROJECT STARTED*                      IS TO OCCUR  ON  DAY   1 JUN 1973

ACTIVITIES ARE SCHEDULED TO START ON THE MORNING OF THE SPECIFIED WORKDAY OR DATE
AND TO FINISH ON THE AFTERNOON OF THE SPECIFIED WORKDAY OR DATE.

EVENTS ARE SCHEDULED FOR THE MORNING AFTER THE LAST PRECEDING ACTIVITY FINISHES,
EXCEPT FOR EVENTS OCCURRING ON THE PROJECT COMPLETION DATE.

ACTIVITIES AND EVENTS ARE SORTED ACCORDING TO   NODE NUMBERS
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'C' IN MARGIN DESIGNATES A CRITICAL ACTIVITY OR EV    .

HOLIDAYS AND NON-WORKING DAYS FOR PROJECT 'ATSF-TV '
                    4 JUL 1973
                    3 SEP 1973
                   22 NOV 1973
                   25 DEC 1973
                    1 JAN 1974
                   30 MAY 1974
                    4 JUL 1974
                    2 SEP 1974
                   21 NOV 1974
                   25 DEC 1974
                    1 JAN 1975
                   30 MAY 1975
                    4 JUL 1975
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     EVENT DESCRIPTION
                                                                   EARLY TIME       LATE TIME
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 C         0  *PROJECT STARTED*
              PRECEDES        200                                  1 JUN 1973      1 JUN 1973
                                                                       1               1
 C       216  *CAR ED 1 STUDIO PRODUCTION STARTED*
              PRECEDES        217                                  8 OCT 1973      8 OCT 1973
                                                                      90              90
 C       219  *CAREER ED 1 BROADCAST*
              PRECEDES        229                                  6 JUN 1974      6 JUN 1974
                                                                     259             259
 C       226  *CAR ED 2 STUDIO PRODUCTION STARTED*
              PRECEDES        227                                 29 OCT 1973     29 OCT 1973
                                                                     105             105
 C       229  *CAREER ED 2 BROADCAST*
              PRECEDES        239                                 13 JUN 1974     13 JUN 1974
                                                                     264             264
 C       236  *CAR ED 3 STUDIO PRODUCTION STARTED*
              PRECEDES        237                                 19 NOV 1973     19 NOV 1973
                                                                     120             120
 C       239  *CAREER ED 3 BROADCAST*
              PRECEDES        249                                 20 JUN 1974     20 JUN 1974
                                                                     269             269
 C       246  *CAR ED 4 STUDIO PRODUCTION STARTED*
              PRECEDES        247                                 10 DEC 1973     10 DEC 1973
                                                                     134             134
 C       249  *CAREER ED 4 BROADCAST*
              PRECEDES        259                                 27 JUN 1974     27 JUN 1974
                                                                     274             274
 C       256  *CAR ED 5 STUDIO PRODUCTION STARTED*
              PRECEDES        257                                 14 JAN 1974     14 JAN 1974
                                                                     157             157
 C       259  *CAREER ED 5 BROADCAST*
              PRECEDES        269                                 11 JUL 1974     11 JUL 1974
                                                                     283             283
 C       266  *CAR ED 6 STUDIO PRODUCTION STARTED*
              PRECEDES        267                                  4 FEB 1974      4 FEB 1974
                                                                     172             172
 C       269  *CAREER ED 6 BROADCAST*
              PRECEDES        279                                 18 JUL 1974     18 JUL 1974
                                                                     288             288
 C       276  *CAR ED 7 STUDIO PRODUCTION STARTED*
              PRECEDES        277                                 25 FEB 1974     25 FEB 1974
                                                                     187             187
 C       279  *CAREER ED 7 BROADCAST*
              PRECEDES        289                                 25 JUL 1974     25 JUL 1974
                                                                     293             293
 C       286  *CAR ED 8 STUDIO PRODUCTION STARTED*
              PRECEDES        287                                 18 MAR 1974     18 MAR 1974
                                                                     202             202
 C       289  *CAREER ED 8 BROADCAST*
              PRECEDES        299                                  1 AUG 1974      1 AUG 1974
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C        296   *CAR ED 9 STUDIO PRODUCTION STARTED*             APR 1974     8 APR 1974
               PRECEDES       297                               217            217

C        299   *CAREER ED 9 BROADCAST*                        8 AUG 1974     8 AUG 1974
               PRECEDES       2109                              303            303

C        500   *FINAL REPORT STARTED*                         1 APR 1975     1 APR 1975
               PRECEDES       510                               467            467

C        600   *FINAL REPORT SUBMITTED*                      29 AUG 1975    29 AUG 1975
               SINK EVENT                                       573            573

C       2106   *CAR ED 10 STUDIO PRODUCTION STARTED          29 APR 1974    29 APR 1974
               PRECEDES       2107                              232            232

C       2109   *CAREER ED 10 BROADCAST*                      15 AUG 1974    15 AUG 1974
               PRECEDES       2119                              308            308

C       2116   *CAR ED 11 STDUIO PRODUCTION STARTED          20 MAY 1974    20 MAY 1974
               PRECEDES       2117                              247            247

C       2119   *CAREER ED 11 BROADCAST*                      22 AUG 1974    22 AUG 1974
               PRECEDES       2129                              313            313

C       2126   *CAR ED 12 STUDIO PRODUCTION STARTED          10 JUN 1974    10 JUN 1974
               PRECEDES       2127                              261            261

C       2129   *CAREER ED 12 BROADCAST*                      29 AUG 1974    29 AUG 1974
               PRECEDES       2131                              318            318

C       2132   *CAREER ED COURSE GRADES ASSIGNED*            12 SEP 1974    12 SEP 1974
               PRECEDES       500                               327            327

                    E N D   O F   E V E N T   S C H E D U L E
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ACTIVITY  DESCRIPTION                        DURA-   EARLY     LATE      EARLY     LATE     FREE  TOTAL
                                             TION    START     START     FINISH    FINISH   FLOAT FLOAT
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   200  CAREER ED APPROACH DETERMINED          5     1JUN73    9JUL73    7JUN73    13JUL73    0    25
          PRECEDES     201                             1         26        5         30
   201  CAREER ED COURSE OUTLINE COMPLETED    10     8JUN73    16JUL73   21JUN73   27JUL73    0    25
          PRECEDES     202     211     221    231      6         31        15        40
                       241     251     261    271
                       281     291    2101   2111
                      2121
          PRECEDES     202     211     221    231
                       241     251     261    271
                       281     291    2101   2111
   202  CAREER ED SET DESIGNED                10     22JUN73   24AUG73   6JUL73    7SEP73     0    44
          PRECEDES     203                             16        60        25        69
   203  CAREER ED SET CONSTRUCTED             20     9JUL73    10SEP73   3AUG73    5OCT73    44    44
          PRECEDES     216                             26        70        45        89
   211  CAR ED 1 LESSON OUTLINE COMPLETED     10     22JUN73   30JUL73   6JUL73    10AUG73    0    25
          PRECEDES     212                             16        41        25        50
   212  CAR ED 1 INITIAL SCRIPT COMPLETED      8     9JUL73    13AUG73   18JUL73   22AUG73    0    25
          PRECEDES     213     214     215             26        51        33        58
   213  CAR ED 1 GRAPHICS COMPLETED           30     19JUL73   23AUG73   29AUG73   4OCT73     0    25
          PRECEDES     215                             34        59        63        88
   214  CAR ED 1 LOCATION FILM COMPLETED      30     19JUL73   23AUG73   29AUG73   4OCT73     0    25
          PRECEDES     215                             34        59        63        88
   215  CAR ED 1 SHOOTING SCRIPT COMPLETED     1     30AUG73   5OCT73    30AUG73   5OCT73    25    25
          PRECEDES     216                             64        89        64        89
   217  CAR ED 1 POST PROD EDIT COMPLETED      5     8OCT73    15MAY74   12OCT73   21MAY74    0   154
          PRECEDES     218                             90        244       94        248
   218  CAR ED 1 FINAL REVISION COMPLETED     10     15OCT73   22MAY74   26OCT73   5JUN74   154   154
          PRECEDES     219                             95        249       104       258
   221  CAR ED 2 LESSON OUTLINE COMPLETED     10     22JUN73   20AUG73   6JUL73    31AUG73    0    40
          PRECEDES     222                             16        56        25        65
   222  CAR ED 2 INITIAL SCRIPT COMPLETED      8     9JUL73    4SEP73    18JUL73   13SEP73    0    40
          PRECEDES     224     225                     26        66        33        73
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223	CAR ED 2 GRAPHICS COMPLETED PRECEDES 225	30	1JUN73 1	14SEP73 74	13JUL73 30	25OCT73 103	33	73
224	CAR ED 2 LOCATION FILM COMPLETED PRECEDES 225	30	19JUL73 34	14SEP73 74	29AUG73 63	25OCT73 103	0	40
225	CAR ED 2 SHOOTING SCRIPT COMPLETED PRECEDES 226	1	30AUG73 64	26OCT73 104	30AUG73 64	26OCT73 104	40	40
227	CAR ED 2 POST PROD EDIT COMPLETED PRECEDES 228	5	29OCT73 105	22MAY74 249	2NOV73 109	28MAY74 253	0	144
228	CAR ED 2 FINAL REVISION COMPLETED PRECEDES 229	10	5NOV73 110	29MAY74 254	16NOV73 119	12JUN74 263	144	144
231	CAR ED 3 LESSON OUTLINE COMPLETED PRECEDES 232	10	22JUN73 16	11SEP73 71	6JUL73 25	24SEP73 80	0	55
232	CAR ED 3 INITIAL SCRIPT COMPLETED PRECEDES 233 234 235	8	9JUL73 26	25SEP73 81	18JUL73 33	4OCT73 88	0	55
233	CAR ED 3 GRAPHICS COMPLETED PRECEDES 235	30	19JUL73 34	5OCT73 89	29AUG73 63	15NOV73 118	0	55
234	CAR ED 3 LOCATION FILM COMPLETED PRECEDES 235	30	19JUL73 34	5OCT73 89	29AUG73 63	15NOV73 118	0	55
235	CAR ED 3 SHOOTING SCRIPT COMPLETED PRECEDES 236	1	30AUG73 64	16NOV73 119	30AUG73 64	16NOV73 119	55	55
237	CAR ED 3 POST PROD EDIT COMPLETED PRECEDES 238	5	19NOV73 120	29MAY74 254	26NOV73 124	5JUN74 258	0	134
238	CAR ED 3 FINAL REVISION COMPLETED PRECEDES 239	10	27NOV73 125	6JUN74 259	10DEC73 134	19JUN74 268	134	134
241	CAR ED 4 LESSON OUTLINE COMPLETED PRECEDES 242	10	22JUN73 16	1OCT73 85	6JUL73 25	12OCT73 94	0	69
242	CAR ED 4 INITIAL SCRIPT COMPLETED PRECEDES 243 244 245	8	9JUL73 26	15OCT73 95	18JUL73 33	24OCT73 102	0	69
243	CAR ED 4 GRAPHICS COMPLETED PRECEDES 245	30	19JUL73 34	25OCT73 103	29AUG73 63	6DEC73 132	0	69
244	CAR ED 4 LOCATION FILM COMPLETED PRECEDES 245	30	19JUL73 34	25OCT73 103	29AUG73 63	6DEC73 132	0	69
245	CAR ED 4 SHOOTING SCRIPT COMPLETED PRECEDES 246	1	30AUG73 64	7DEC73 133	30AUG73 64	7DEC73 133	69	69
247	CAR ED 4 POST PROD EDIT COMPLETED PRECEDES 248	5	10DEC73 134	6JUN74 259	14DEC73 138	12JUN74 263	0	125
248	CAR ED 4 FINAL REVISION COMPLETED PRECEDES 249	10	17DEC73 139	13JUN74 264	31DEC73 148	26JUN74 273	125	125
251	CAR ED 5 LESSON OUTLINE COMPLETED PRECEDES 252	10	22JUN73 16	1NOV73 108	6JUL73 25	14NOV73 117	0	92
252	CAR ED 5 INITIAL SCRIPT COMPLETED	8	9JUL73	15NOV73	18JUL73	27NOV73	0	92

	PRECEDES 254 255		26	118	33	125		
253	CAR ED 5 GRAPHICS COMPLETED PRECEDES 255	30	1JUN73 1	[illegible]NOV73 126	13JUL73 30	10JAN74 155	33	125
254	CAR ED 5 LOCATION FILM COMPLETED PRECEDES 255	30	19JUL73 34	28NOV73 126	29AUG73 63	10JAN74 155	0	92
255	CAR ED 5 SHOOTING SCRIPT COMPLETED PRECEDES 256	1	30AUG73 64	11JAN74 156	30AUG73 64	11JAN74 156	92	92
257	CAR ED 5 POST PROD EDIT COMPLETED PRECEDES 258	5	14JAN74 157	19JUN74 268	18JAN74 161	25JUN74 272	0	111
258	CAR ED 5 FINAL REVISION COMPLETED PRECEDES 259	10	21JAN74 162	26JUN74 273	1FEB74 171	10JUL74 282	111	111
261	CAR ED 6 LESSON OUTLINE COMPLETED PRECEDES 262	10	22JUN73 16	23NOV73 123	6JUL73 25	6DEC73 132	0	107
262	CAR ED 6 INITIAL SCRIPT COMPLETED PRECEDES 263 264 265	8	9JUL73 26	7DEC73 133	18JUL73 32	18DEC73 140	0	107
263	CAR ED 6 GRAPHICS COMPLETED PRECEDES 265	30	19JUL73 34	19DEC73 141	29AUG73 63	31JAN74 170	0	107
264	CAR ED 6 LOCATION FILM COMPLETED PRECEDES 265	30	19JUL73 34	19DEC73 141	29AUG73 63	31JAN74 170	0	107
265	CAR ED 6 SHOOTING SCRIPT COMPLETED PRECEDES 266	1	30AUG73 64	1FEB74 171	30AUG73 64	1FEB74 171	107	107
267	CAR ED 6 POST PROD EDIT COMPLETED PRECEDES 268	5	4FEB74 172	26JUN74 273	8FEB74 176	2JUL74 277	0	101
268	CAR ED 5 FINAL REVISION COMPLETED PRECEDES 269	10	11FEB74 177	3JUL74 278	22FEB74 186	17JUL74 287	101	101
271	CAR ED 7 LESSON OUTLINE COMPLETED PRECEDES 272	10	22JUN73 16	14DEC73 138	6JUL73 25	28DEC73 147	0	122
272	CAR ED 7 INITIAL SCRIPT COMPLETED PRECEDES 273 274 275	8	9JUL73 26	31DEC73 148	18JUL73 33	10JAN74 155	0	122
273	CAR ED 7 GRAPHICS COMPLETED PRECEDES 275	30	19JUL73 34	11JAN74 156	29AUG73 63	21FEB74 185	0	122
274	CAR ED 7 LOCATION FILM COMPLETED PRECEDES 275	30	19JUL73 34	11JAN74 156	29AUG73 63	21FEB74 185	0	122
275	CAR ED 7 SHOOTING SCRIPT COMPLETED PRECEDES 276	1	30AUG73 64	22FEB74 186	30AUG73 64	22FEB74 186	122	122
277	CAR ED 7 POST PROD EDIT COMPLETED PRECEDES 278	5	25FEB74 187	3JUL74 278	1MAR74 191	10JUL74 282	0	91
278	CAR ED 7 FINAL REVISION COMPLETED PRECEDES 279	10	4MAR74 192	11JUL74 283	15MAR74 201	24JUL74 292	91	91
281	CAR ED 8 LESSON OUTLINE COMPLETED PRECEDES 282	10	22JUN73 16	8JAN74 153	6JUL73 25	21JAN74 162	0	137

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 282  CAR ED 8 INITIAL SCRIPT COMPLETED       8     9JUL73     22JAN74     18JUL73     31JAN74      0   137
        PRECEDES      283      284      285          26         163          33         170

 283  CAR ED 8 GRAPHICS COMPLETED            30    19JUL73      1FEB74     29AUG73     14MAR74      0   137
        PRECEDES      285                            34         171          63         200

 284  CAR ED 8 LOCATION FILM COMPLETED       30    19JUL73      1FEB74     29AUG73     14MAR74      0   137
        PRECEDES      285                            34         171          63         200

 285  CAR ED 8 SHOOTING SCRIPT COMPLETED      1    30AUG73     15MAR74     30AUG73     15MAR74    137   137
        PRECEDES      286                            64         201          64         201

 287  CAR ED 8 POST PROD EDIT COMPLETED       5    18MAR74     11JUL74     22MAR74     17JUL74      0    81
        PRECEDES      288                           202         283         206         287

 288  CAR ED 8 FINAL REVISION COMPLETED      10    25MAR74     18JUL74      5APR74     31JUL74     81    81
        PRECEDES      289                           207         288         216         297

 291  CAR ED 9 LESSON OUTLINE COMPLETED      10    22JUN73     29JAN74      6JUL73     11FEB74      0   152
        PRECEDES      292                            16         168          25         177

 292  CAR ED 9 INITIAL SCRIPT COMPLETED       8     9JUL73     12FEB74     18JUL73     21FEB74      0   152
        PRECEDES      293      294      295          26         178          33         185

 293  CAR ED 9 GRAPHICS COMPLETED            30    19JUL73     22FEB74     29AUG73      4APR74      0   152
        PRECEDES      295                            34         186          63         215

 294  CAR ED 9 LOCATION FILM COMPLETED       30    19JUL73     22FEB74     29AUG73      4APR74      0   152
        PRECEDES      295                            34         186          63         215

 295  CAR ED 9 SHOOTING SCRIPT COMPLETED      1    30AUG73      5APR74     30AUG73      5APR74    152   152
        PRECEDES      296                            64         216          64         216

 297  CAR ED 9 POST PROD EDIT COMPLETED       5     8APR74     18JUL74     12APR74     24JUL74      0    71
        PRECEDES      298                           217         288         221         292

 298  CAR ED 9 FINAL REVISION COMPLETED      10    15APR74     25JUL74     26APR74      7AUG74     71    71
        PRECEDES      299                           222         293         231         302

 510  FINAL REPORT COMPLETED                 30     1APR75     21JUL75     12MAY75     29AUG75     77    77
        PRECEDES      600                           467         544         496         573

2101  CAR ED 10 LESSON OUTLINE COMPLETED     10    22JUN73     19FEB74      6JUL73      4MAR74      0   167
        PRECEDES      2102                           16         183          25         192

2102  CAR ED 10 INITIAL SCRIPT COMPLETED      8     9JUL73      5MAR74     18JUL73     14MAR74      0   167
        PRECEDES      2103     2104     2105         26         193          33         200

2103  CAR ED 10 GRAPHICS COMPLETED           30    19JUL73     15MAR74     29AUG73     25APR74      0   167
        PRECEDES      2105                           34         201          63         230

2104  CAR ED 10 LOCATION FILM COMPLETED      30    19JUL73     15MAR74     29AUG73     25APR74      0   167
        PRECEDES      2105                           34         201          63         230

2105  CAR ED 10 SHOOTING SCRIPT COMPLETED     1    30AUG73     26APR74     30AUG73     26APR74    167   167
        PRECEDES      2106                           64         231          64         231

2107  CAR ED 10 POST PROD EDIT COMPLETED      5    29APR74     25JUL74      3MAY74     31JUL74      0    61
        PRECEDES      2108                          232         293         236         297
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2108  CAR ED 10 FINAL REVISION COMPLETED        10    6MAY74    1AUG74    17MAY74    14AUG74    61    61
        PRECEDES     2109                               237       298       246        307
2111  CAR ED 11 LESSCV OUTLINE COMPLETED        10    22JUN73   12MAR74   6JUL73     25MAR74     0   182
        PRECEDES     2112                               16        198       25         207
2112  CAR ED 11 INITIAL SCRIPT COMPLETED         8    9JUL73    26MAR74   18JUL73    4APR74      0   182
        PRECEDES     2113     2114     2115             26        208       33         215
2113  CAR ED 11 GRAPHICS COMPLETED              30    19JUL73   5APR74    29AUG73    16MAY74     0   182
        PRECEDES     2115                               34        216       63         245
2114  CAR ED 11 LOCATION FILM COMPLETED         30    19JUL73   5APR74    29AUG73    16MAY74     0   182
        PRECEDES     2115                               34        216       63         245
2115  CAR ED 11 SHOOTING SCRIPT CUMPLETED        1    30AUG73   17MAY74   30AUG73    17MAY74   182   182
        PRECEDES     2116                               64        246       64         246
2117  CAR ED 11 POST PROD EDIT CUMPLETED         5    20MAY74   1AUG74    24MAY74    7AUG74      0    51
        PRECEDES     2118                               247       298       251        302
2118  CAR ED 11 FINAL REVISICN COMPLETED        10    27MAY74   8AUG74    10JUN74    21AUG74    51    51
        PRECEDES     2119                               252       303       261        312
2121  CAR ED 12 LESSON OUTLINE COMPLETED        10    22JUN73   1APR74    6JUL73     12APR74     0   196
        PRECEDES     2122                               16        212       25         221
2122  CAR ED 12 INITIAL SCRIPT COMPLETED         8    9JUL73    15APR74   18JUL73    24APR74     0   196
        PRECEDES     2123     2124     2125             26        222       33         229
2123  CAR ED 12 GRAPHICS COMPLETED              30    19JUL73   25APR74   29AUG73    6JUN74      0   196
        PRECEDES     2125                               34        230       63         259
2124  CAR ED 12 LOCATION FILM COMPLETED         30    19JUL73   25APR74   29AUG73    6JUN74      0   196
        PRECEDES     2125                               34        230       63         259
2125  CAR ED 12 SHGOTING SCRIPT COMPLETED        1    30AUG73   7JUN74    30AUG73    7JUN74    196   196
        PRECEDES     2126                               64        260       64         260
2127  CAR ED 12 PCST PROD EDIT COMPLETED         5    10JUN74   8AUG74    14JUN74    14AUG74     0    42
        PRECEDES     2128                               261       303       265        307
2128  CAR ED 12 FINAL REVISICN COMPLETED        10    17JUN74   15AUG74   28JUN74    28AUG74    42    42
        PRECEDES     2129                               266       308       275        317
2131  CAREER ED MATERIALS GRADED                 9    29AUG74   29AUG74   11SEP74    11SEP74     0     0
        PRECEDES     2132                               318       318       326        326
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E. RESOURCE ALLOCATION: Fiscal Resources required for this mission and Mission 3.0 are specified together in the budget section. Staff of the career education component were as follows:

Component Director: Ray Manion - Phase II
Betty Bowling - Phase III

Curriculum Specialist: Barbara Preli - Phase II

Materials Developer: Cathy Whitton

Graduate Assistant: Bernie Lovely

F. SUMMARY OF EVALUATION ACTIVITIES

FORMATIVE EVALUATION: The Evaluation Component helped the Career Education Component refine its products and procedures by constructing convenient response and record-keeping forms and performing experimental studies to detect procedural problems that needed to be resolved before the administration of the course. More specifically, the Evaluation Component:

*2.7.1.a. provided a summary of current economic conditions, elementary career education programs and teacher-pupil ratios in the target region;

b. developed site-visit forms for the elementary career education instructor to use to record content suggestions made by people in the field and self-observations on current elementary career education practices in the schools in the areas, so that he could shape the course to meet the needs of the target population;

2.7.2. met with the elementary career education instructor to refine course content, course objectives and drafts of scripts, to have unit and post questions checked for accuracy, to explain procedures for the evaluation of elementary career education products and to obtain information necessary for the documentation of the development of the elementary career education course;

2.7.3. assisted in the specification and refinement of a set of cognitive and affective behavioral objectives for each of the 12 pre-recorded programs and the 4 live seminars;

2.7.4.a. developed a scale for the rating of drafts of scripts by subject-matter experts to determine whether objectives were appropriate for a course in elementary career education, whether the coverage of the topics was adequate, and whether the facts were accurate;

b. developed a scale for the rating of drafts of scripts by agents (classroom teachers) to determine whether a group similar to the target audience thought the ideas were clearly presented and whether they were convinced of the relevancy and usefulness of the ideas and techniques;

*Numbers refer to specific activities outlined in the evaluation mission description and thus are non-consecutive.

2.7.5. produced multiple-choice pre and postunit questions, precourse and postcourse questions, and instruments measuring user-satisfaction of pretaped programs, live seminars, and ancillary activities;

2.7.6. had elementary career education test items checked by a subject-matter expert and an expert in test construction and had instruments assessed by the Instrument Review Committee before sending them to ARC for approval;

2.7.10. prepared talks, handouts and manuals to explain evaluation activities of site coordinators and cooperating faculty members in the career education courses;

SUMMATIVE EVALUATION: The Evaluation Component assessed the effectiveness of the elementary career education course and the career education component by measuring (1) student reaction to the course package and the separate learning activities and the equipment; (2) subject-matter expert reaction to particular course products; (3) student achievement of course objectives, achievement of career education component goals and career education-related goals of other components; (4) the additive impact of activities in the learning sequence; (5) the effect of the courses on classroom practice; and (6) the cost of the course and other comparable courses. The Evaluation Component:

2.7.11.a. had the teachers enrolled in the elementary career education course rate at the end of each session the instructional value of the learning activities;

b. had teachers rate the adequacy of the responses made to questions submitted during the 4 seminars;

2.7.12. had subject-matter experts rate the final course-package (videos, scripts, objectives, test items and ancillary materials) or scripts and objectives alone for accuracy, appropriateness, adequacy of development, clarity and continuity;

2.7.13.a. used data from items on a preliminary questionnaire to find out what participating teachers saw as elementary career education needs in local schools and data from educational and demographic items to find out what the educational and demographic characteristics of the population were -- information necessary in documenting need and sampling;

b. administered a pretest to measure entrance-level ability and a posttest to measure exit-behavior in order to gather data to determine the impact of the course on the teacher;

2.7.14. assessed attitudes toward elementary career education on pre-post administrations of a questionnaire;

2.7.15.a. required the administration of multiple-choice unit tests *after each program* sequence to determine the effectiveness of each unit;

b. prepared optical scanning response forms and computer cards for analysis of items by computer program, and procedures for computerized scoring, data storage, and data analysis;

2.7.16. performed an in-field study on two elementary career education units to assess the additive impact of the learning activities by dividing each class at each site into three groups and giving the unit test to group 1 after the video, group 2 after the four-channel audio, and group 3 after the ancillary activities;

2.7.17. gathered information on teacher reaction to the course from course evaluation forms;

2.7.18. evaluated the success of the Career Education Component in meeting its objectives;

2.7.19. assessed the success of the Evaluation Component in evaluating elementary career education products and procedures by having the students and consulting faculty rate evaluation procedures and instruments.

2.7.20. documented the success of RESA personnel in teacher recruitment for the elementary career education course, adequacy of classroom site, equipment installation and maintenance, acquisition, distribution and processing of materials, promptness and completion of evaluation procedures;

2.7.21. evaluated the adequacy of the delivery of 12 elementary career education videos and 12 four-channel audios via satellite with user four-channel audio and quality of television viewing forms the students filled out and down-time and quality of the viewing area forms the site-monitor filled out;

2.7.22. published two technical reports on the elementary career education course;

2.7.23. assessed the cost of the products developed for the elementary career education course in relation to the cost of other in-service elementary career education courses of similar quality;

2.7.25. designed, implemented, and reported on a limited follow-up study of course participants classroom behaviors.

Specific evaluation findings related to the development of this course may be found in the following Technical Reports:

TR#7	User Ratings of Instructional Activities: Career Education in the Elementary Grades (Summer, 1974)
TR#9	User Achievement: Career Education in the Elementary Grades (Summer, 1974)

G. RECOMMENDATIONS: On the basis of my experience as coordinator of the career education component for development of the elementary career education course, I would recommend that:

1. In future efforts, a greater amount of time should be allotted for planning, developing and producing course materials. A span of 9 months, although appearing to be a reasonably long period of time, is in reality a very short time for developing a successful television course from the ground up.

2. In particular, more specific attention should be given to provisions for preliminary outside reviews and field testing of materials developed, prior to presentation of final products.

3. For similar course undertakings in the future, care should be taken to base course development activities upon a highly flexible relationship between component content experts and the television component, insuring appropriate input from both parties into development of course materials.

4. Student reaction to course materials, as evidenced by findings of the RCC evaluation component, indicates the need for a high correlation between videotapes, ancillary materials and testing materials; in future course development, great care should be taken to build this correlation into all aspects of the course(s).

5. When initial plans were being made for development of AESP career education courses, the state of the art was such that content experts in career education were not readily accessible to work with the project, a situation that has changed a great deal in the past two years. In the future, care should be taken to appoint a component director who is a proven, experienced authority in career education. While the AESP reading component was directed by a reading authority, the career education component had to operate without such an expert, a situation that is sometimes necessary.

6. In future efforts, on-site location filming of teachers/students working in career education should be continued and expanded. Evaluation findings indicate a strong positive reaction to filmed segments of peer activities.

MISSION 3.0 CAREER EDUCATION SEMINAR DEVELOPMENT

A. OBJECTIVE: To develop a live, interactive, televised course in career education for 300 teachers of students in grades 7 through 12 for broadcast via the Applied Technology Satellite.

B. OUTCOMES: Plans for 16 live seminars in Career Education were developed by September 1, 1974.

C. MISSION DESCRIPTION:

1. Course Outline

Originally, the Appalachian Education Satellite Project planned for one reading course and three career education courses (for grades K-6, 7-9, and 10-12). The reading course and the first career education course (K-6) were developed and aired during the summer of 1974. At that time, however, feedback from Appalachian educators indicated a greater need for additional reading programs, and the decision was made by the Appalachian Regional Commission to have the AESP expand the existing reading course to include grades 4-6, and develop only one more career education course which would cover grades 7-12. The final outcome became, then, two reading courses to cover grades K-6 and two career education courses to cover grades K-12.

Tentative course outlines were developed early in the project, however, for the junior and senior high school courses. These are included for the reader, and are marked outline "A" (junior high school) and "B" (senior high school). When the decision was made to develop two instead of three career education courses, it was also decided to design the second course to meet the needs of both junior and senior high school personnel. The course outline for "Career Education in the Secondary School (7-12)" is identified as outline "C". This outline was developed by RCC personnel in consultation with Dr. Rupert Evans of the University of Illinois (Dr. Evans' involvement in the course will be detailed in the next section).

OUTLINE A

appalachian education satellite project

CAREER EDUCATION IN THE JUNIOR HIGH SCHOOL (7-9)

Course Overview

"Career Education in the Junior High School" is a series of sixteen 45-minute live, interactive, televised seminars in career education for 300 teachers of students in grades 7-9. The purpose of the live seminars is to prepare these teachers to successfully infuse the elements of career education into their curricula and to aid in the implementation of career education programs in their schools.

The seminars will provide participants with:

1. an introduction to career education theory and practice
2. an opportunity to review and ask specific questions about the implementation process for career education programs
3. a demonstration of the relationships between the common concerns of the junior high or middle school teacher and career education
4. an opportunity to interact with school administrators, support staff, community members or agencies, and parents who have already been involved in a career education program.

The seminar format of the course, with its two-way audio feedback, will provide the opportunity for discussion, questions and answers, and immediate feedback to both seminar leaders and participants which would otherwise be unavailable. The use of a seminar format, coupled with provisions for live interaction, will provide a method of dealing effectively with participant concerns, attitudes and questions.

Course Goals

1. The student will comprehend the principles, concepts and practices of career education in a junior high/middle school setting
2. The student will apply an instructional planning process in integrating career education into existing curricula and developing new curricula.
3. The student will be able to introduce career education concepts, principles and practices to junior high/middle school staff.
4. The student will demonstrate a positive attitude toward the application of career education principles, concepts and practices to a school setting.
5. The student will receive three semester hours graduate level credit.

Course Organization

The course is being organized as a combination seminar/laboratory course. During the seminar portion, career education issues will be reviewed and discussed. The seminar portion will be received on television, with laboratory portions conducted locally within each RESA. Common student guides and teacher guides will be used at all sites. Career Education curriculum materials to be used by the participants in their teaching will be developed during the laboratory portions of the course.

The course will be offered on Tuesdays, meeting for three hours between 4 o'clock and 7 o'clock in the evening on the following dates:

Session	Date	Session	
1	September 3, 1974	9	October 29, 1974
2	September 9 "	10	November 5 "
3	September 17 "	11	November 12 "
4	September 24 "	12	November 19 "
5	October 1 "	13	November 26 "
6	October 8 "	14	December 12 "
7	October 15 "	15	December 10 "
8	October 22 "	16	December 17 "

Course Content

Themes for the sixteen seminars will be selected to present information and create awarenesses which will enable the teacher to develop an articulated career education program capable of meeting the personal and career development of the pre- or early adolescent

Proposed areas of discussion include such topics as:

- foundations, definitions and goals of career education
- career clustering
- integration of career education into the curriculum
- instructional strategies for career education
- community involvement
- change theories for career education and the role of the change agent
- staff development programs and activities

Student Assignments

Student assignments will include the following:

1. development and testing of a career education curriculum unit
2. introductory note explaining how career education and instructional system design concepts and principles have been incorporated into the curriculum unit

3. questions submitted on a weekly basis to be answered during the TV broadcast
4. service as a discussion leader on a rotating basis during small group meetings
5. participation in discussions during the TV broadcasts and laboratory sessions
6. weekly reading assignments
7. completion of weekly course evalutation materials

Course Resources

Instructor syllabus - an instructor syllabus will be developed and distributed to staff at each of the RESAs; this document will provide a common communication about the course activities.

Quizzes - objective-type, paper/pencil tests will be developed for use during each of the weekly quizzes. The tests will provide both pre- and post-test information to be used for research purposes and for class diagnosis. Tests will be administered and scored locally at each RESA.

Student Syllabus - Developed for use by each student enrolling in the course, this syllabus will contain course outlines, selected readings (reports, essays, speeches), assignments, etc. The syllabus will serve as the text for the course; other books in print will be listed as optional texts.

Curriculum Laboratory - the curriculum laboratory wil be located at each RESA and will be open and accessible to the students on afternoons other than when the course is taught, as well as Saturday mornings. Attendance at the laboratory will be optional.

References - A reference library will be established at each RESA and will contain such books as the Dictionary of Occupational Titles, optional course texts, and several career education references.

Curriculum Unit Development Procedures - a monograph defining procedures for developing curriculum units will be prepared and distributed among the students and staff.

Curriculum Unit Format - a monograph setting forth suggested formats for preparing curriculum units will be prepared and distributed among the students and staff.

OUTLINE B

appalachian education satellite project

CAREER EDUCATION IN THE SENIOR HIGH SCHOOL (10-12)

Course Overview

"Career Education in the Senior High School" is a series of sixteen 45-minute live, interactive, televised seminars in career education for 300 teachers of grades 10-12. The seminars will not only transmit pre-selected career education content, but also will allow teachers to modify the program to meet their individual needs. Each session will begin with a presentation on a selected topic (formal lecture, live and/or videotaped sequence, or panel discussion). Following each presentation, participants will be able to respond by return link to the studio; responses will be answered by seminar leaders.

The purpose of the seminars is to prepare pre-service and in-service senior high school teachers to teach career education to their students, either through their chosen field(s) of training or through new curricula needed in schools to implement career education.

Course Goals

Each student successfully completing* the career education seminars will:

1. develop a senior high school level career education curriculum unit
2. recognize at least 70% of the career education concepts and principles measured during the seminars
3. recognize at least 70% of the instructional design concepts and principles measured during the seminars
4. apply at least two career education concepts and two career education principles presented during the seminars; application of these concepts and principles will be made in the career education curriculum unit developed by the student
5. apply at least ten concepts and ten principles presented during the seminars in the instructional design area; application of these concepts and principles will be made in the career education curriculum unit developed by the student
6. receive three graduate-level credit hours.

*successful completion of the course is defined as receiving a letter grade of "C" or better from the seminar instructor upon completion of the course

Course Organization

The course is being organized as a combination seminar/laboratory course. During the seminar portion, career education issues will be reviewed and discussed. The seminar portion will be received on television, with laboratory portions conducted locally within each RESA. Common student guides and teacher guides will be used at all sites. Career Education curriculum materials to be used by the participants in their teaching will be developed during the laboratory portions of the course.

The course will be offered on Tuesdays, meeting for three hours between 4 o'clock and 7 o'clock in the evening on the following dates:

Seminar	Meeting Date	Seminar	Meeting Date
1	January 21, 1975	9	March 18, 1975
2	January 28 "	10	March 25 "
3	February 4 "	11	April 8 "
4	February 11 "	12	April 15 "
5	February 18 "	13	April 22 "
6	February 25 "	14	April 29 "
7	March 4 "	15	May 5 "
8	March 11 "	16	May 13 "

Course Content

Tentative listing of topics to be covered:

I. Career Education

1. Definition and rationale for career education
2. Career development theory
3. Career role theory
4. Career development phases
5. Conceptions of career education
6. Matrix development
7. Career clusters
8. Dictionary of Occupational Titles (DOT)
9. Introducing career education into the curriculum
10. Career education instructional alternatives
11. Career guidance
12. Career options
13. Measuring aptitudes and interests
14. Completing job applications
15. Community involvement
16. Parent involvement
17. Support systems
18. Placement

II. Instructional Materials Development

1. Individualized instruction
2. The instructional materials development process
3. Format for instructional materials development

4. Resources for development
5. Behavioral analysis (task analysis)
6. Instructional objectives
7. Sequencing instruction
8. Instructional strategies
9. Educational media
10. Testing
11. Curriculum unit resources
12. Accommodating indivudual differences

III. Administrative

1. Orientation to the course
2. Resources available to the student
3. Course overview
4. Course conclusion
5. Course summary

Student Assignments

Student assignments will include the following:

1. development and testing of a career education curriculum unit
2. introductory note explaining how career education and instructional system design concepts and principles have been incorporated into the curriculum unit
3. questions submitted on a weekly basis to be answered during the TV broadcast
4. service as a discussion leader on a rotating basis during small group meetings
5. participation in discussions during the TV broadcasts and laboratory sessions
6. weekly reading assignments
7. completion of weekly course evaluation materials

Course Resources

Instructor syllabus - an instructor syllabus will be developed and distributed to staff at each of the RESAs; this document will provide a common communication about the course activities.

Quizzes - objective-type, paper/pencil tests will be developed for use during each of the weekly quizzes. The tests will provide both pre- and post-test information to be used for research purposes and for class diagnosis. Tests will be administered and scored locally at each RESA.

Student Syllabus - Developed for use by each student enrolling in the course, this syllabus will contain course outlines, selected readings (reports, essays, speeches), assignments, etc. The syllabus will serve as the text for the course; other books in print will be listed as optional texts.

Curriculum Laboratory - the curriculum laboratory will be located at each RESA and will be open and accessible to the students on afternoons other than when the course is taught, as well as Saturday mornings. Attendance at the laboratory will be optional.

References - A reference library will be established at each RESA and will contain such books as the Dictionary of Occupational Titles, optional course texts, and several career education references.

Curriculum Unit Development Procedures - a monograph defining procedures for developing curriculum units will be prepared and distributed among the students and staff.

Curriculum Unit Format - a monograph setting forth suggested formats for preparing curriculum units will be prepared and distributed among the students and staff.

appalachian education

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aesp

OUTLINE C

CAREER EDUCATION IN THE SECONDARY SCHOOL
(grades 7-12)

Course Overview

Career Education in the Secondary School combines television instruction and laboratory experiences in offering a forum in which teachers can prepare to successfully infuse career education into their curriculum and to effectively aid in the implementation of career education programs in their schools. The television instruction consists of sixteen one-hour live interactive seminars; on each week's seminar, career education sepcialists and practitioners will appear with host and moderator Dr. Rupert Evans, a noted career educator from the University of Illinois, to challenge and guide students in their development of an appreciation of career education. The seminar format, with its interactive capability, allows students the opportunity to interact with prominent figures in career education.

Course Objectives

The students will:

1. Comprehend the principles, concepts, and practices of career education in a secondary school setting.
2. Apply an instructional planning process in integrating career education into existing curricula or in developing new curricula.
3. Be able to introduce career education concepts, principles, and practices to secondary school staffs.
4. Demonstrate a positive attitude toward the application of career education principles, concepts, and practices to a school setting.

Course Organization

Classes consist of interactive participation in the seminars and performance of laboratory activities at each classroom site.

Classes will meet on Tuesday evenings from 5:30 p.m. to 8:30 p.m. (CDT), according to the following schedule:

Date	Title	Date	Title
9/03/74	What is Career Education?	9/17/74	Understanding the Wide Range of Occupations: Clustering as a Means
9/10/74	The Relationship of Work, Careers, and Education		

Date	Title
9/24/74	Career Education Coordination at all Levels of Education
10/01/74	Coordination and Integration of Career Education at all Levels of Education
10/08/74	The Student
10/15/74	Career Education Programs and Resources
10/22/74	Community as a Resource
10/29/74	Problems in Program Planning
11/05/74	Problems in Program Planning
11/12/74	Stereotypes
11/19/74	Attitudes Toward Career Education
11/26/74	Staff Involvement in Training
12/03/74	Student Units I
12/10/74	Student Units II
12/17/74	Future of Career Education

Three semester hours graduate level credit can be received with successful completion of the course.

Course Assignments

Each student will:

1. develop a career education curriculum/implementation unit
2. submit weekly questions to be discussed during seminars
3. participate in group activities
4. complete course readings
5. complete course evaluation materials

Bibliography

Each student will be provided with the following materials free of charge:

Belman, Harry S. and Bruce Shertzer. My Career Guidebook, second edition. Beverly Hills: Bruce, 1974.

Bibliography on Career Education. Washington, D.C.: Department of Health, Education, and Welfare, Office of Education, 1973.

Bottoms, James E. and others. Career Education Resource Guide. Morristown, New Jersey: General Learning Corporation, 1972.

Hoyt, Kenneth, Rupert Evans, Edward Mackin, and Garth Mangum. Career Education: What it is and How to Do it. Salt Lake City: Olympus Publishing Company, 1974.

Hoyt, Kenneth, Rupert Evans, and Garth Mangum. Career Education in the Middle/Junior High School. Salt Lake City: Olympus Publishing Company, 1973.

Keller, Louise. Career Education In-Service Training Guide. Morristown, New Jersey: General Learning Corporation, 1972.

Each RESA site has a reference library containing optional course texts and everal career education references. Students also have access to computer and manual information retrieval systems. Mimeographed material will accompany the ancillary materials of each program.

2. Production Method

The secondary career education course was designed as a series of 16 one-hour, live interactive seminars broadcast from University of Kentucky television studios to the 15 participating RESA sites.

During each seminar there was an audio return-link from RESA classroom sites to the broadcast studio at the University of Kentucky, which established the interrelationship necessary for individualized instruction. With weekly feedback via audio connection, it was possible to alter subsequent seminar presentations, thereby adapting content of the on-going course more toward the expressed needs of the participants. In addition, the audio interconnection provided the opportunity for students to interact with the career education experts and community leaders taking part in the seminar presentations, making possible the expansion of delivery to multiple interconnected classrooms rather than isolated classrooms alone.

Dr. Rupert Evans, noted career education authority who is currently with the Bureau of Educational Research at the University of Illinois, was contracted to function as moderator for each of the 16 seminars. Originally Dr. Evans met with representatives of the management, television, and evaluation components of the AESP in order to assimilate input from each of these integral functions of the project.

Objectives for the course were established as a basis for developing content. In terms of outcomes for students participating in the course, each student would:

- comprehend the principles, concepts and practices of career education in a secondary school setting
- apply an instructional planning process in integrating career education into existing curricula or in developing new curricula
- be able to introduce career education concepts, principles and practices to secondary school staffs
- demonstrate a positive attitude toward the application of career education principles, concepts and practices to a secondary school setting.

An original course outline was constructed, and revised in subsequent discussions in order to produce a course content which would most adequately meet the needs of the participating audience throughout Appalachia.

Appropriate ancillary (laboratory) activities were developed for student use during the course. Materials were developed by project personnel, working closely with Dr. Evans, to include both individual and group activities to correspond with the topic for each seminar presentation. Each student in the course received a packet of materials for each weekly course meeting.

Each packet consisted of a cover sheet which listed the topic of the seminar to be presented during that session, the laboratory activities for that session and the materials needed to complete those activities, a list of materials to be handed in to the site coordinator that day, the materials to be distributed to each student, and a list of assignments. Assignments were in two sections, follow-up and pre-preparation. Follow-up assignments were designed to reinforce the materials presented that day, both in the seminar and the laboratory session; assignments listed under pre-program preparation related to material to be presented in the coming week's session, and were designed to better prepare the student to respond to material presented during that session.

A reference and suggested reading section was also included. Materials were cited which pertained to that day's discussion, and which would serve as excellent sources for follow-up reading. Sample curriculum units were also included to serve as models for the curriculum or implementation unit which each student was to develop during the course.

Laboratory sessions for the course served as a follow-up to the live seminars, with activities designed to increase student understanding of career education through application of concepts presented in the seminars. They also served as work sessions for developing class projects (curriculum/implementation units).

Each student participating in the course was provided with six books/pamphlets as a source of additional supplemental information. Each student could also utilize the reference collection at his/her site, which included optional course texts and several additional career education references. Each student also had access to computer and manual information retrieval systems.

Each student was expected to provide input into weekly seminars; participate in group activities at his/her classroom site; complete ancillary (laboratory) activities on site; complete course readings; and develop a career education curriculum/implementation unit.

Each seminar was broadcast live from the University of Kentucky television studios to RESA sites. Extensive planning sessions occured prior to each seminar, during which existing plans for presentations were reviewed and final plans for the actual broadcast were detailed.

Well in advance of any seminars, all seminar guests were contacted and plans made for their appearance The topic for the seminar on which they were to appear was discussed with them at length. Participants arranged to arrive at the University on the night before or the morning of the broadcast (all broadcasts were aired in the evenings). Prior to the actual broadcast, each participant met with Dr. Evans, the career education coordinator of the AESP, the television producer-director for the series, and other appropriate personnel connected with the seminar in order to finalize last-minute details and review the content outline for that particular program.

Each seminar presentation was designed to include discussions of the selected topic through lecture or panel discussion, and videotaped film inserts depicting the operation of successful career education activities. Several simulated activities were staged and filmed in the television studios in advance of the seminar presentations.

During each broadcast, questions and comments from participants at each of the 15 classroom sites were received via voice or teletype transmission. Questions and comments were coordinated and fed to the on-stage moderator, who then directed the question/comment to the appropriate seminar participant. Questions and comments from participants were subsequently studied for input into modifications of future programs in order to better meet the needs of the audience.

Upon occasion, minor adjustments in seminar content and production had to be made due to unavoidable circumstances; for example, inclement weather prohibited the arrival of two seminar participants during the winter. In such circumstances, contingency plans were put into effect, plans which had been made with Dr. Evans and the producer-director for the series.

The final list of topics to be covered in the 16 seminars included:

- What is career education?
- The relationship of work, careers and education
- Understanding the wide range of occupations: clustering as a means
- Career education coordination at all levels of education
- Coordination and integration of career education at all levels of education
- The secondary school student
- Career education programs and resources
- The community as a resource
- Problems in Program Planning I
- Problems in Program Planning II
- Stereotyping
- Attitudes toward career education
- Staff involvement in training
- Student Units (Show and Tell) I
- Student Units (Show and Tell) II
- The future of career education

In developing a tentative list of seminar participants, individuals were considered on the basis of their contributions and expertise in particular areas of career education. To provide a balanced and comprehensive coverage of the field, it was desired that participants include recognized national authorities, authors, program developers, classroom teachers and other school personnel, and representatives of government agencies involved with career education. The final list of participants who appeared on the seminar series with Dr. Evans is attached. It represents one of the most impressive and comprehensive gathering of career education spokesmen to date.

SEMINAR PARTICIPANTS
Career Ed., Grades 7-12

Dr. Rupert Evans
Bureau of Educational Research
University of Illinois

Dr. Gene Bottoms
Georgia State Department of Education

Dr. Ron Daugherty, Associate Director
Center for Vocational and Technical Education
Ohio State University

Ms. Barbara Preli
Career Education Coordinator
Louisville, Kentucky, School System

Ms. Donna Rehbeck
Classroom Teacher
Louisville, Kentucky

Dr. Daryl Laramore - Supervisor of Vocational Guidance
Montgomery County Board of Education
Rockville, Maryland

Dr. Edwin Herr
Department of Counselor Education
Penn State University

Ms. Brenda Evan
Career Education Specialist
University of Arizona

Ms. Lee Cheramy
Classroom Teacher
Towanda, Illinois

Dr. William Neal
Career Education Project
Knoxville, Tennessee School System

Dr. Owen Collins
Career Education Project Director
Kentucky Valley Educational Cooperative
Hazard, Kentucky

Mr. Gino Carlotti
Career Education Project Director
Erie, Pennsylvania

Mr. Claude Brown
Education and Research Director
Teamster Local #688
St. Louis, Missouri

Ms. Pat Clifton
Classroom Teacher
Champaign-Urbana, Illinois

Ms. Edith Smith
Guidance Counselor
LaFollette, Tennessee

Mr. Anthony Kolo
Classroom Teacher
Fredonia, New York

Ms. Winifred Scott
Classroom Teacher
Fredonia, New York

Ms. Anne Anglin
Classroom Teacher
Huntsville, Alabama

Mr. James Thomas
Classroom Teacher
Addison, Pennsylvania

Ms. Ella Bowen
Bureau of Educational Research
University of Illinois

Ms. Constance Shorter
Department of Education
University of Illinois

Betty Bowling
Coordinator, Career Education
Appalachian Education Satellite Project
University of Kentucky

Dr. Emanuel Mason
Department of Educational Psychology and Counseling
University of Kentucky

Mr. Tom Walsh
U. S. Chamber of Commerce

Dr. James McComas
Dean, College of Education
University of Tennessee

Mr. Joel Smith
Career Education Project, Cobb County, Georgia

Ms. Faith Cox
Classroom Teacher
Big Stone Gap, Virginia

Mr. Dwight Campbell
Classroom Teacher
Rose Hill, Virginia

Ms. Betty Simerly
Classroom Teacher
Piney Flats, Tennessee

Ms. Marjorie McLean
Classroom Teacher
Erie, Pennsylvania

Mr. James Sweet
Guidance Counselor
Gowanda, New York

Mr. Bruce Eymer
Guidance Counselor
Bradford, Pennsylvania

Dr. Garth Mangum
University of Utah
and Olympus Publishing Company

Dr. Sar Levitan
Center for Manpower Policy Studies
Washington, D. C.

Dr. Kenneth Hoyt
Director, U. S. Office of Career Education
Washington, D. C.

3. Annotated Bibliography of Developed Documents

Evans, Rupert, Peter Gillette, Betty Bowling, et al. Videotapes of 16 one-hour live seminar presentations. Included are panel discussions, question-answer sessions and filmed inserts of national authorities, school practitioners, students, and course participants addressing the topic of career education in a secondary school setting. AESP, RCC, Lexington, Kentucky: Fall, 1974.

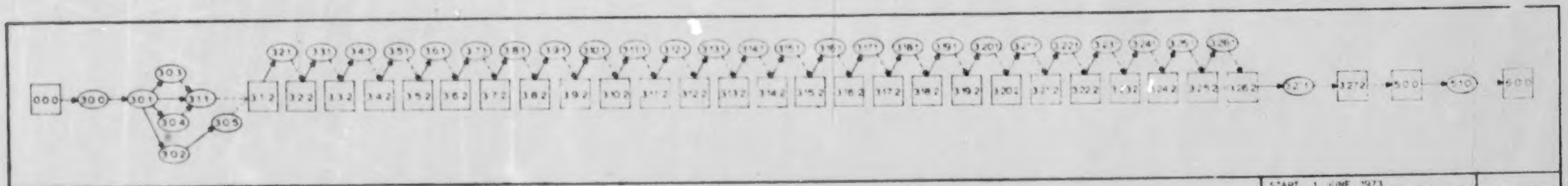
Whitton, Catherine, et al. Ancillary Materials for Career Education in the Secondary School. Individual packets of group/individual activities, suggested references and resources. AESP, RCC, Lexington, Kentucky: Fall, 1974.

4. Outline of Working Relations

The outline of working relationships for career education is presented in detail in Mission 2.

D. Time Lines

The Time Lines for the Career Education component appear on the following pages. These time lines were designed to be planning tools for the developmental phase of the project. They accurately reflect the milestones of the first sixteen programs of the seminar formated courses. Seminars 17 through 26 were dropped to make possible the development of a second reading course.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APPALACHIAN APPLIED TECHNOLOGY
SATELLITE PROJECT

UNIVERSITY OF KENTUCKY

SUMMARY NETWORK 30 – CAREER EDUCATION SEMINAR I DEVELOPMENT

START 1 JUNE 1973
FINISH 31 AUG 1975
PROJECT DIRECTOR LARIMORE
NETWORK DEVELOPER BLACKHURST

FIGURE

1 JULY

TABLE 3
SCHEDULE FOR MISSION 3.0
CAREER EDUCATION SEMINAR I
DEVELOPMENT

NOTE: This schedule [illegible] developed for [illegible] seminars. ~~Revisions are being made~~ to develop a schedule for 22 seminars.

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************************************************************
*  S C H E D U L E    F O R    P R O J E C T    'ATSF-TV '  *
************************************************************


PROJECT DURATION IS   573 WORK DAYS,  WORK WEEK IS 5 DAYS
WORK IS SCHEDULED TO START ON THE MORNING OF  1 JUN 1973
AND TO BE COMPLETED ON THE AFTERNOON OF 29 AUG 1975.

THE PROJECT 'ATSF-TV ' NETWORK HAS
  34 ACTIVITIES OF WHICH   34 APPEAR ON THIS REPORT OR SCHEDULE
  30 MILESTONE EVENTS OF WHICH   30  APPEAR ON THIS REPORT OR SCHEDULE

THE FOLLOWING USER-ASSIGNED CONSTRAINTS HAVE BEEN USED IN SCHEDULING.

     EVENT     600      *FINAL REPORT SUBMITTED*       IS TO OCCUR  ON  DAY   1 SEP 1975
     EVENT     500      *FINAL REPORT STARTED*         IS TO OCCUR  ON  DAY   1 APR 1975
     EVENT    3272      *SEMINAR 1 GRADES ASSIGNED*    IS TO OCCUR  ON  DAY  25 MAR 1975
     EVENT    3262      *SEMINAR 1 BROADCAST 26*       IS TO OCCUR  ON  DAY  11 MAR 1975
     EVENT    3252      *SEMINAR 1 BROADCAST 25*       IS TO OCCUR  ON  DAY   4 MAR 1975
     EVENT    3242      *SEMINAR 1 BROADCAST 24*       IS TO OCCUR  ON  DAY  25 FEB 1975
     EVENT    3232      *SEMINAR 1 BROADCAST 23*       IS TO OCCUR  ON  DAY  18 FEB 1975
     EVENT    3222      *SEMINAR 1 BROADCAST 22*       IS TO OCCUR  ON  DAY  11 FEB 1975
     EVENT    3212      *SEMINAR 1 BROADCAST 21*       IS TO OCCUR  ON  DAY   4 FEB 1975
     EVENT    3202      *SEMINAR 1 BROADCAST 20*       IS TO OCCUR  ON  DAY  28 JAN 1975
     EVENT    3192      *SEMINAR 1 BROADCAST 19*       IS TO OCCUR  ON  DAY  21 JAN 1975
     EVENT    3182      *SEMINAR 1 BROADCAST 18*       IS TO OCCUR  ON  DAY  14 JAN 1975
     EVENT    3172      *SEMINAR 1 BROADCAST 17*       IS TO OCCUR  ON  DAY   7 JAN 1975
     EVENT    3162      *SEMINAR 1 BROADCAST 16*       IS TO OCCUR  ON  DAY  17 DEC 1974
     EVENT    3152      *SEMINAR 1 BROADCAST 15*       IS TO OCCUR  ON  DAY  10 DEC 1974
     EVENT    3142      *SEMINAR 1 BROADCAST 14*       IS TO OCCUR  ON  DAY   3 DEC 1974
     EVENT    3132      *SEMINAR 1 BROADCAST 13*       IS TO OCCUR  ON  DAY  26 NOV 1974
     EVENT    3122      *SEMINAR 1 BROADCAST 12*       IS TO OCCUR  ON  DAY  19 NOV 1974
     EVENT    3112      *SEMINAR 1 BROADCAST 11*       IS TO OCCUR  ON  DAY  12 NOV 1974
     EVENT    3102      *SEMINAR 1 BROADCAST 10*       IS TO OCCUR  ON  DAY   5 NOV 1974
     EVENT     392      *SEMINAR 1 BROADCAST 9*        IS TO OCCUR  ON  DAY  29 OCT 1974
     EVENT     382      SEMINAR 1 BROADCAST 8*         IS TO OCCUR  ON  DAY  22 OCT 1974
     EVENT     372      *SEMINAR 1 BROADCAST 7*        IS TO OCCUR  ON  DAY  15 OCT 1974
     EVENT     362      *SEMINAR 1 BROADCAST 6*        IS TO OCCUR  ON  DAY   8 OCT 1974
     EVENT     352      *SEMINAR 1 BROADCAST 5*        IS TO OCCUR  ON  DAY   1 OCT 1974
     EVENT     342      *SEMINAR 1 BROADCAST 4*        IS TO OCCUR  ON  DAY  24 SEP 1974
     EVENT     332      *SEMINAR 1 BROADCAST 3*        IS TO OCCUR  ON  DAY  17 SEP 1974
     EVENT     322      *SEMINAR 1 BROADCAST 2*        IS TO OCCUR  ON  DAY  10 SEP 1974
     EVENT     312      *SEMINAR 1 BROADCAST 1*        IS TO OCCUR  ON  DAY   3 SEP 1974
     EVENT       0      *PROJECT STARTED*              IS TO OCCUR  ON  DAY   1 JUN 1973

ACTIVITIES ARE SCHEDULED TO START ON THE MORNING OF THE SPECIFIED WORKDAY OR DATE
AND TO FINISH ON THE AFTERNOON OF THE SPECIFIED WORKDAY OR DATE.

EVENTS ARE SCHEDULED FOR THE MORNING AFTER THE LAST PRECEDING ACTIVITY FINISHES,
EXCEPT FOR EVENTS OCCURRING ON THE PROJECT COMPLETION DATE.
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ACTIVITIES AND EVENTS ARE SORTED ACCORDING TO   NODE  NUMBERS
'C' IN MARGIN DESIGNATES A CRITICAL ACTIVITY OR EVENT.

HOLIDAYS AND NON-WORKING DAYS FOR PROJECT 'ATSF-TV '

                         4 JUL 1973
                         3 SEP 1973
                        22 NOV 1973
                        25 DEC 1973
                         1 JAN 1974
                        30 MAY 1974
                         4 JUL 1974
                         2 SEP 1974
                        21 NOV 1974
                        25 DEC 1974
                         1 JAN 1975
                        30 MAY 1975
                         4 JUL 1975
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                      E V E N T   S C H E D U L E
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    ************************************************************************
        EVENT DESCRIPTION                               EARLY TIME     LATE TIME
    ************************************************************************
    C          0  *PROJECT STARTED*                     1 JUN 1973    1 JUN 1973
                  PRECEDES       300                         1             1
    C        312  *SEMINAR 1 BROADCAST 1*               3 SEP 1974    3 SEP 1974
                  PRECEDES       321                       320           320
    C        322  *SEMINAR 1 BROADCAST 2*              10 SEP 1974   10 SEP 1974
                  PRECEDES       331                       325           325
    C        332  *SEMINAR 1 BROADCAST 3*              17 SEP 1974   17 SEP 1974
                  PRECEDES       341                       330           330
    C        342  *SEMINAR 1 BROADCAST 4*              24 SEP 1974   24 SEP 1974
                  PRECEDES       351                       335           335
    C        352  *SEMINAR 1 BROADCAST 5*               1 OCT 1974    1 OCT 1974
                  PRECEDES       361                       340           340
    C        362  *SEMINAR 1 BROADCAST 6*               8 OCT 1974    8 OCT 1974
                  PRECEDES       371                       345           345
    C        372  *SEMINAR 1 BROADCAST 7*              15 OCT 1974   15 OCT 1974
                  PRECEDES       381                       350           350
    C        382  SEMINAR 1 BROADCAST 8*               22 OCT 1974   22 OCT 1974
                  PRECEDES       391                       355           355
    C        392  *SEMINAR 1 BROADCAST 9*              29 OCT 1974   29 OCT 1974
                  PRECEDES       3101                      360           360
    C        500  *FINAL REPORT STARTED*                1 APR 1975    1 APR 1975
                  PRECEDES       510                       467           467
    C        600  *FINAL REPORT SUBMITTED*             29 AUG 1975   29 AUG 1975
                  SINK EVENT                               573           573
    C       3102  *SEMINAR 1 BROADCAST 10*              5 NOV 1974    5 NOV 1974
                  PRECEDES       3111                      365           365
    C       3112  *SEMINAR 1 BROADCAST 11*             12 NOV 1974   12 NOV 1974
                  PRECEDES       3121                      370           370
    C       3122  *SEMINAR 1 BROADCAST 12*             19 NOV 1974   19 NOV 1974
                  PRECEDES       3131                      375           375
    C       3132  *SEMINAR 1 BROADCAST 13*             26 NOV 1974   26 NOV 1974
                  PRECEDES       3141                      379           379
    C       3142  *SEMINAR 1 BROADCAST 14*              3 DEC 1974    3 DEC 1974
                  PRECEDES       3151                      384           384
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           PRECEDES    3161                                                  389
  C     3162  *SEMINAR 1 BROADCAST 16*                         17 DEC 1974    17 DEC 1974
              PRECEDES     3171                                      394            394
  C     3172  *SEMINAR 1 BROADCAST 17*                          7 JAN 1975     7 JAN 1975
              PRECEDES     3181                                      407            407
  C     3182  *SEMINAR 1 BROADCAST 18*                         14 JAN 1975    14 JAN 1975
              PRECEDES     3191                                      412            412
  C     3192  *SEMINAR 1 BROADCAST 19*                         21 JAN 1975    21 JAN 1975
              PRECEDES     3201                                      417            417
  C     3202  *SEMINAR 1 BROADCAST 20*                         28 JAN 1975    28 JAN 1975
              PRECEDES     3211                                      422            422
  C     3212  *SEMINAR 1 BROADCAST 21*                          4 FEB 1975     4 FEB 1975
              PRECEDES     3221                                      427            427
  C     3222  *SEMINAR 1 BROADCAST 22*                         11 FEB 1975    11 FEB 1975
              PRECEDES     3231                                      432            432
  C     3232  *SEMINAR 1 BROADCAST 23*                         18 FEB 1975    18 FEB 1975
              PRECEDES     3241                                      437            437
  C     3242  *SEMINAR 1 BROADCAST 24*                         25 FEB 1975    25 FEB 1975
              PRECEDES     3251                                      442            442
  C     3252  *SEMINAR 1 BROADCAST 25*                          4 MAR 1975     4 MAR 1975
              PRECEDES     3261                                      447            447
  C     3262  *SEMINAR 1 BROADCAST 26*                         11 MAR 1975    11 MAR 1975
              PRECEDES     3271                                      452            452
  C     3272  *SEMINAR 1 GRADES ASSIGNED*                      25 MAR 1975    25 MAR 1975
              PRECEDES      500                                      462            462

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                                        A C T I V I T Y   S C H E D U L E
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ACTIVITY  DESCRIPTION                              DURA-    EARLY     LATE      EARLY     LATE      FREE  TOTAL
                                                   TION     START     START     FINISH    FINISH    FLOAT FLOAT
****************************************************************************************************

     300  SEMINAR 1 APPROACH DETERMINED              5      1JUN73    11FEB74    7JUN73   15FEB74     0   176
            PRECEDES      301                                  1        177          5       181
     301  SEM 1 COURSE & LESSONS OUTLINED          104      8JUN73    18FEB74    2NOV73   15JUL74     0   176
            PRECEDES      302      303      304    311         6        182        109       285
     302  SEMINAR 1 SET DESIGNED                    10      5NOV73    22JUL74   16NOV73    2AUG74     0   180
            PRECEDES      305                                110        290        119       299
     303  SEM 1 ALL GRAPHICS COMPLETED              30      5NOV73    16JUL74   17DEC73   26AUG74     0   176
            PRECEDES      311                                110        286        139       315
     304  SEM 1 ALL LOCATION FILM COMPLETED         30      5NOV73    16JUL74   17DEC73   26AUG74     0   176
            PRECEDES      311                                110        286        139       315
     305  SEMINAR 1 SET CONSTRUCTED                 20     19NOV73     5AUG74   17DEC73   30AUG74   180   180
            PRECEDES      312                                120        300        139       319
     311  SEM 1 SHOOTING SCRIPT 1 COMPLETED          4     18DEC73    27AUG74   21DEC73   30AUG74   176   176
            PRECEDES      312                                140        316        143       319
     321  SEM 1 SHOOTING SCRIPT 2 COMPLETED          4      3SEP74     4SEP74    6SEP74    9SEP74     1     1
            PRECEDES      322                                320        321        323       324
     331  SEM 1 SHOOTING SCRIPT 3 COMPLETED          4     10SEP74    11SEP74   13SEP74   16SEP74     1     1
            PRECEDES      332                                325        326        328       329
     341  SEM 1 SHOOTING SCRIPT 4 COMPLETED          4     17SEP74    18SEP74   20SEP74   23SEP74     1     1
            PRECEDES      342                                330        331        333       334
     351  SEM 1 SHOOTING SCRIPT 5 COMPLETED          4     24SEP74    25SEP74   27SEP74   30SEP74     1     1
            PRECEDES      352                                335        336        338       339
     361  SEM 1 SHOOTING SCRIPT 6 COMPLETED          4      1OCT74     2OCT74    4OCT74    7OCT74     1     1
            PRECEDES      362                                340        341        343       344
     371  SEM 1 SHOOTING SCRIPT 7 COMPLETED          4      8OCT74     9OCT74   11OCT74   14OCT74     1     1
            PRECEDES      372                                345        346        348       349
     381  SEM 1 SHOOTING SCRIPT 8 COMPLETED          4     15OCT74    16OCT74   18OCT74   21OCT74     1     1
            PRECEDES      382                                350        351        353       354
     391  SEM 1 SHOOTING SCRIPT 9 COMPLETED          4     22OCT74    23OCT74   25OCT74   28OCT74     1     1
            PRECEDES      392                                355        356        358       359
     510  FINAL REPORT COMPLETED                    30      1APR75    21JUL75   12MAY75   29AUG75    77    77
            PRECEDES      600                                467        544        496       573
     3101  SEM 1 SHOOTING SCRIPT 10 COMPLETED      4   29OCT74   30OCT74    1NOV74    4NOV74    1    1
             PRECEDES     3102                           360       361       363       364
     3111  SEM 1 SHOOTING SCRIPT 11 COMPLETED      4    5NOV74    6NOV74    8NOV74   11NOV74    1    1
             PRECEDES     3112                           365       366       368       369
     3121  SEM 1 SHOOTING SCRIPT 12 COMPLETED      4   12NOV74   13NOV74   15NOV74   18NOV74    1    1
             PRECEDES     3122                           370       371       373       374
  C  3131  SEM 1 SHOOTING SCRIPT 13 COMPLETED      4   19NOV74   19NOV74   25NOV74   25NOV74    0    0
             PRECEDES     3132                           375       375       378       378
     3141  SEM 1 SHOOTING SCRIPT 14 COMPLETED      4   26NOV74   27NOV74   29NOV74    2DEC74    1    1
             PRECEDES     3142                           379       380       382       383
     3151  SEM 1 SHOOTING SCRIPT 15 COMPLETED      4    3DEC74    4DEC74    6DEC74    9DEC74    1    1
             PRECEDES     3152                           384       385       387       388
     3161  SEM 1 SHOOTING SCRIPT 16 COMPLETED      4   10DEC74   11DEC74   13DEC74   16DEC74    1    1
             PRECEDES     3162                           389       390       392       393
     3171  SEM 1 SHOOTING SCRIPT 17 COMPLETED      4   17DEC74   31DEC74   20DEC74    6JAN75    9    9
             PRECEDES     3172                           394       403       397       405
     3181  SEM 1 SHOOTING SCRIPT 18 COMPLETED      4    7JAN75    8JAN75   10JAN75   13JAN75    1    1
             PRECEDES     3192                           407       408       410       411
     3191  SEM 1 SHOOTING SCRIPT 19 COMPLETED      4   14JAN75   15JAN75   17JAN75   20JAN75    1    1
             PRECEDES     3192                           412       413       415       416
     3201  SEM 1 SHOOTING SCRIPT 20 COMPLETED      4   21JAN75   22JAN75   24JAN75   27JAN75    1    1
             PRECEDES     3202                           417       418       420       421
     3211  SEM 1 SHOOTING SCRIPT 21 COMPLETED      4   28JAN75   29JAN75   31JAN75    3FEB75    1    1
             PRECEDES     3212                           422       423       425       426
     3221  SEM 1 SHOOTING SCRIPT 22 COMPLETED      4    4FEB75    5FEB75    7FEB75   10FEB75    1    1
             PRECEDES     3222                           427       428       430       431
     3231  SEM 1 SHOOTING SCRIPT 23 COMPLETED      4   11FEB75   12FEB75   14FEB75   17FEB75    1    1
             PRECEDES     3232                           432       433       435       436
     3241  SEM 1 SHOOTING SCRIPT 24 COMPLETED      4   18FEB75   19FEB75   21FEB75   24FEB75    1    1
             PRECEDES     3242                           437       438       440       441
     3251  SEM 1 SHOOTING SCRIPT 25 COMPLETED      4   25FEB75   26FEB75   28FEB75    3MAR75    1    1
             PRECEDES     3252                           442       443       445       446
     3261  SEM 1 SHOOTING SCRIPT 26 COMPLETED      4    4MAR75    5MAR75    7MAR75   10MAR75    1    1
             PRECEDES     3262                           447       448       450       451
  C  3271  SEM 1 MATERIALS GRADED                 10   11MAR75   11MAR75   24MAR75   24MAR75    0    0
             PRECEDES     3272                           452       452       461       461

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E. RESOURCE ALLOCATION: Fiscal resources required for this mission and mission 2.0 are specified together in the budget section. Staff of the career education component are as follows:

Component Director: Ray Manion - Phase II
Betty Bowling - Phase III

Curriculum Specialist: Barbara Preli - Phase II

Materials Developer: Cathy Whitton

Graduate Assistant: Bernie Lovely

F. SUMMARY OF EVALUATION ACTIVITIES:

FORMATIVE EVALUATION: The Evaluation Component helped the Mission 3 staff refine its products and procedures. The Evaluation Component documented development activities by constructing convenient response and record-keeping forms and performed experimental studies to detect procedural problems that needed to be resolved before the administration of the course. More specifically, the Evaluation Component:

*3.7.1. provided a summary of current economic conditions, secondary school career education programs and teacher-pupil ratios in the target region;

3.7.2. met with the Mission 3 course instructor to refine course content, to have unit and summative questions checked for accuracy, to discuss and/or explain the evaluation activities for the course and obtain information necessary for the documentation of the development of the secondary school career education seminar course;

3.7.3. assisted in the specification and refinement of a set of cognitive and affective behavioral objectives for each of the sixteen seminars and for the course as a whole;

3.7.5.a. produced questions for the sixteen seminars and for the summative posttest;

b. produced instruments for rating the content and interest level of the course enrollees;

c. developed ways of recording the questions sent in by course enrollees for seminar discussion and measuring audience response with the answers;

3.7.6. checked the measuring instruments discussed under 2.7.5. for content validity and appropriateness by subject-matter experts and field representatives and for adequacy with respect to general measurement properties by experts in measurement;

3.7.10. prepared a manual delineating evaluation procedure;

SUMMATIVE EVALUATION: The Evaluation Component assessed the effectiveness of the secondary school career education course and the secondary

*Numbers refer to specific activities outlined in the evaluation mission description and thus are non-consecutive.

school career education component by measuring 1) student reaction to the course package and the separate learning activities and the equipment; 2) subject-matter expert reaction to particular course products; 3) student achievement of course objectives, achievement of component goals, and career education related goals of other components; 4) effectiveness for the interactive seminar format by which the course is conducted.

The Evaluation Component:

3.7.11.a. had teachers enrolled in the secondary school career education course rate at the end of each session the learning activities in the order of their helpfulness in teaching the concepts and techniques;

b. had teachers rate the extent they had an opportunity to ask questions, the relevance of submitted questions and the adequacy of responses given during the seminars;

3.7.12. had subject-matter experts rate the final course package (videos, objectives, test items and ancillary materials) or objectives alone for accuracy, appropriateness, adequacy of development, clarity and continuity;

3.7.13.a. used data from items on a preliminary questionnaire to find out what participating teachers see as secondary school career education needs in local schools and what the educational and demographic characteristics of the population were, information necessary in documenting need and sampling;

b. administered a pretest to measure entrance-level ability and posttest to measure exit behavior in order to gather data to determine the impact of the course on the teacher;

3.7.14. constructed an instrument to measure attitudes towards course objectives;

3.7.15. prepared optical scanning response forms and computer cards for analysis of items by computer programs, and procedures for computerized scoring, data storage, and data analysis;

3.17.a. measured the effectiveness of the secondary school career education course by comparing student performance on the pretest and the posttest;

b. gathered information on student reaction to the course from student withdrawal forms and course evaluation forms;

3.7.18. evaluated the success of the Career Education Component in meeting its objectives;

3.7.20. documented the success of RESA personnel in teacher recruitment for the secondary school career education course, adequacy of classroom site, equipment installation and maintenance, acquisition, distribution and processing of materials, promptness and completion of evaluation procedures;

3.7.21. evaluated the adequacy of the delivery of the 16 seminar presentations, quality of television viewing forms the students filled out, and equipment down-time and quality of viewing area forms the site monitor filled out;

3.7.22. published a technical report on the secondary level career education course;

3.7.23. assessed the cost of the products developed for the secondary school career education course in relation to the cost of other in-service secondary school career education courses of similar quality;

Specific evaluation findings related to this mission appear in Technical Report #11, Summative Evaluation of the Secondary School Career Education Course. (Fall, 1974)

G. RECOMMENDATIONS:

1. In future course development, a strictly "seminar" format should be avoided; student response indicates that such an extended series of panel presentations becomes repetitious. The live format provides additional stimulus to course participants, but would be strengthened by a blend of panel discussions, pre-taped segments, interviews, etc.

2. Course participants expressed a preference for "how-to-do-it" materials and film segments; this type of presentation appeared to have the greatest impact upon the audience. In future courses, as much "how-to-do-it" material as feasible should be incorporated.

3. Dr. Rupert Evans, who flew to U.K. from the University of Illinois each Tuesday for career education seminars, made significant contributions to and was an extremely valuable asset to the entire course; however, his not being readily available (on campus) for meetings, consultations, decisions, etc., served as a handicap to course development upon occasion. In future courses, it is recommended that the course on-camera "authority" be located in close proximity to the project offices to facilitate necessary contact between all personnel involved in developing course content.

4. In live seminar presentations, difficulty exists in achieving close correlation between the seminar content and ancillary materials. This is dictated by the very nature of live presentations. However, course participants should be made aware of this situation, and great care should be exercised in developing ancillary materials for their use.

5. It is suggested that seminar guests represent a broad mixture of not only career education experts and authorities, but also and just as importantly, school personnel, career education practitioners, community members, and parents.

MISSION 4.0 FOUR-CHANNEL AUDIO PROGRAM DEVELOPMENT

A. **OBJECTIVE:** To develop a series of four-channel one way audio programs in reading and career education for broadcast to 900 teachers via the applied technology satellite.

B. **OUTCOMES:**

1. Twelve, 15 minute, four-channel audio programs were developed to supplement each of the reading and career education courses. (Phase II)

2. Two, 15-minute, four-channel audio programs were developed by April 30, 1975, to supplement a reading course. (Phase III)

3. These programs demonstrated the capability of satellites in transmitting in the multi-channel format.

C. **MISSION DESCRIPTION:** The mission of the four-channel audio system focused and depended upon three main constructs. Those were: 1) the development of appropriate multi-choice type items; 2) the response mode interface via the four-channel audio system; and 3) feedback and interpretation of response data to affect formative evaluation decisions.

1. Multiple-choice Items. Multiple-choice items were generated from the content base of the 14 video program segments in elementary reading and the 12 video program segments in career education. The principal style used in formulating the multiple-choice items was based upon the case study approach. Facts were presented relative to problem situations in elementary reading (i.e., printed and/or audio taped instances of reading deficiencies are given) or in career education (i.e., printed and/or audio taped instances of a student trying to decide upon a career) and then the participant was asked to make a multiple-choice selection which was a solution or partial solution to the problem.

Another strategy employed was to utilize the multiple-choice format as an evaluation procedure relative to information presented in the previously mentioned video program segments in elementary reading and career education.

2. Response Mode Interface. Students responded to the multiple-choice items mentioned under 1. by pressing one of four buttons on a console as they received specific questions through earphones from a pre-programmed audio-tape supplemented by a printed handout. (The handout was desirable for reviewing the details of case studies.)

3. Feedback and Interpretation of Response Data. After a sufficient pause in the pre-programmed tape, participants were given feedback via the audio headphones as to the correct/incorrect multiple-choice responses and why they were so.

By incorporating a response accumulation device with the four-button console, data was collected as in an item-analysis of the multiple-choice items. These data provided a formative base for those responsible for program evaluation and/or revision.

Course Outline

Fifteen minute, four-channel audio programs were developed to supplement each of the following career education programs broadcast from July 2 through August 20, 1974.

1. The Concept of Career Education
2. A Comprehensive Career Education Program
3. Job Clustering: A Tool for Career Education
4. Integrating Career Education into the Curriculum
5. Total Curriculum Integration
6. The Collection and Utilization of Instructional Materials
7. Community Resources
8. Implementation Strategy for the School System
9. Attitudes About Change
10. Dealing with Educational Change
11. Special Interests and Career Education
12. The Rewards of a Comprehensive Career Education Program

Fifteen minute, four-channel audio programs were developed to supplement each of the following reading programs broadcast from July 11 - August 22, 1974.

1. DPRI Introduction
2. Informal Tests
3. Standardized Tests
4. Word Recognition Tests
5. Miscue Analysis
6. Prescriptive Instructional Systems
7. DPRI Management
8. Reading Readiness and Beginning Reading
9. Word Recognition
10. Vocabulary
11. Comprehension
12. Total Reading Program

Four-channel audio supplements also accompanied the following reading programs. These seven programs represent a portion of the reading course broadcast from January 21 - May 20, 1975.

3. Standardized Tests
6. Miscue Analysis
7. Prescriptive Instructional Systems
8. DPRI Management
11. Word Recognition
16. Developing Life-Long Readers
17. Total Reading Program

Production Method

Materials developers in both reading and career education deserve much credit for producing scripts which lent themselves to the format required, which included conforming to precise time frames. Typically, each four-channel script consisted of four main questions, with appropriate choices, pauses for participants to select their answers, and four-channel explanations as to the correctness or incorrectness of the choices. When time allowed, short summaries were also included at the end of each script. When it came to explaining whether choices were correct or incorrect and why, internal consistency as to the length of the responses was a script requirement so that participants did not have to sit through "blank time" while other explanations were being heard.

Upon completion of the script, a copy was sent to the narrator for study. When she was ready to record, she was placed in a soundproof announce booth with an Electrovoice 666 microphone.

The voice was recorded on 1/4" Scotch 208 audio tape using an Ampex full-track tape deck. Any necessary editing was done on this tape prior to transfer to 1/2" tape.

The 1/2" tape was again Scotch 208 and the machine was an Ampex AG 440, a four-track machine designed for 1/2" tape. When making the transfer from 1/4" to 1/2" tape, all four channels could be recorded simultaneously where the dialogue was identical on all channels. For recording those sections having a different dialogue on each channel, it was necessary to record the longest first, and then fit the other three within its boundaries.

When this process was completed the program was timed and sent to Denver for transmission on an identical AG 440.

Much credit should be given the narrator and the four-channel technician for turning the scripts into the final product, that is, fine quality recordings. These individuals worked under a number of constraints such as short time schedules, inaccessibility of studio time (except at odd hours), late arrival of special equipment and a number of other things, yet remained dedicated to the task and eventually produced the twenty-six tapes which were required.

Relationships With Other Project Staff and External Agencies

As stated previously, the content of the four-channel audio scripts was dependent upon the content of the video tapes prepared for the Reading and Career Education courses. Typically, the developmental working relationships occurred in the following sequence:

1. Completion of rough-draft version of television script in Reading (Lowell Eberwein) or in Career Education (various authors).

2. Discussion between four-channel audio script writer and video script author.

3. Writing of four-channel audio scripts in Reading (principally Alice Martinson) and in Career Education (members of the Career Education Task Force).

4. Piloting of some script items with graduate classes in U.K.'s College of Education, especially in Reading.

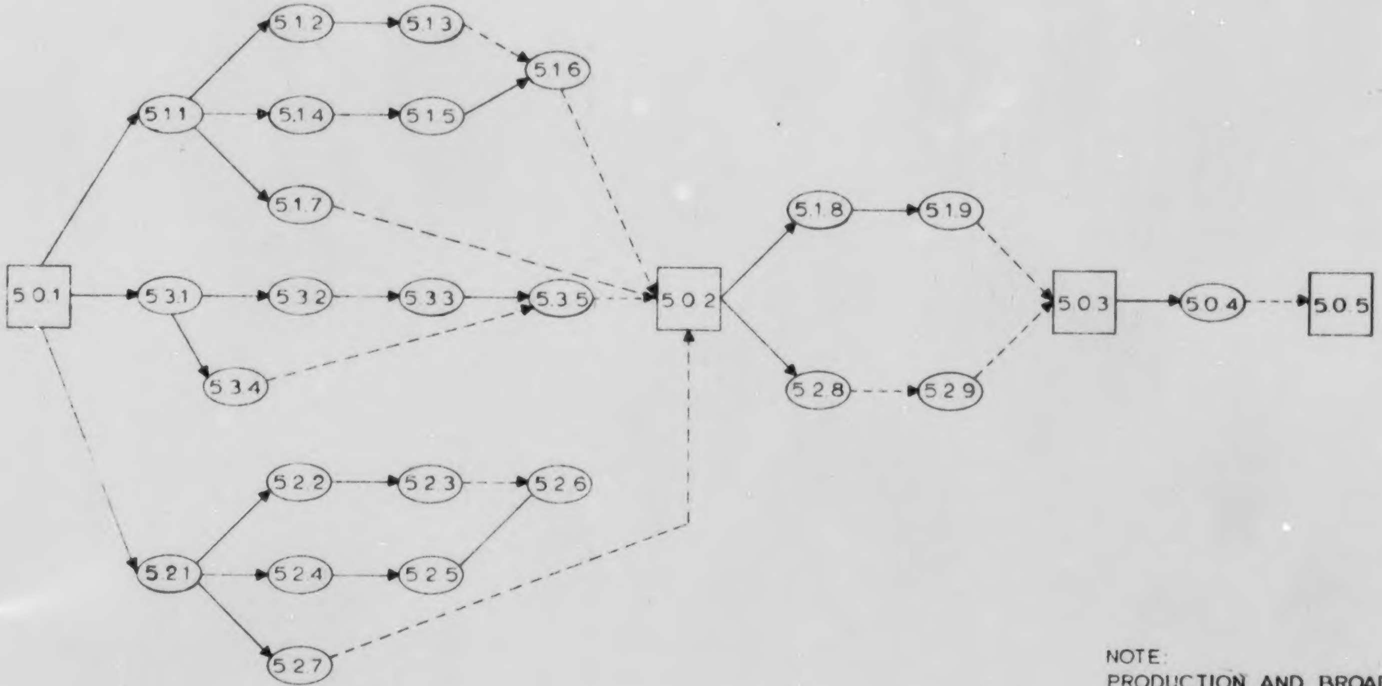
5. Revision of scripts as a result of pilot tests.

6. Review of scripts by Four-Channel Audio Mission Director (Frank Colton).

7. Recording of scripts by narrator (Linda Colton) and audio technical director (David Haydon).

D. TIME LINES

The time lines for four-channel audio component appear on the following pages. These time lines were designed to be planning tools for the developmental phase of the project. They accurately reflect the milestones and start and finish dates.


5.0.1
5.1.1
5.1.2
5.1.3
5.1.4
5.1.5
5.1.6
5.1.7
5.3.1
5.3.2
5.3.3
5.3.4
5.3.5
5.2.1
5.2.2
5.2.3
5.2.4
5.2.5
5.2.6
5.2.7
5.0.2
5.1.8
5.1.9
5.2.8
5.2.9
5.0.3
5.0.4
5.0.5

NOTE:
PRODUCTION AND BROADCAST TIMES
CORRESPOND TO THOSE IN MISSIONS 1.0 & 2.0

APPALACHIAN APPLIED TECHNOLOGY SATELLITE PROJECT	SUMMARY NETWORK FOR MISSION 5.0 — FOUR CHANNEL AUDIO PROGRAM	START: 1 JULY 1973 FINISH: 30 SEPT. 1974	FIG 5.0
UNIVERSITY OF KENTUCKY		PROJECT DIRECTOR: LARIMORE NETWORK DEVELOPER: BLACKHURST	28 JUNE 73

TABLE 5.0
SCHEDULE FOR MISSION 4.0 FOUR-CHANNEL AUDIO PROGRAM DEVELOPMENT

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*****************************************************************
*  S C H E D U L E    F O R    P R O J E C T    'ATSF-TV '  *
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PROJECT DURATION IS   572 WORK DAYS,  WORK WEEK IS 5 DAYS
WORK IS SCHEDULED TO START ON THE MORNING OF  1 JUN 1973
AND TO BE COMPLETED ON THE AFTERNOON OF 28 AUG 1975.


THE PROJECT 'ATSF-TV ' NETWORK HAS
  24 ACTIVITIES OF WHICH   24 APPEAR ON THIS REPORT OR SCHEDULE
   4 MILESTONE EVENTS OF WHICH     4  APPEAR ON THIS REPORT OR SCHEDULE


THE FOLLOWING USER-ASSIGNED CONSTRAINTS HAVE BEEN USED IN SCHEDULING.

     EVENT       505               *FINAL REPORT SUBMITTED*           IS TO OCCUR  ON  DAY   31 AUG 1975
     EVENT       503               *4 CHANNEL REPORT STARTED*         IS TO OCCUR  ON  DAY   15 SEP 1974
     EVENT       502               *4 CHANNEL IMPLEMENTATION STARTED* IS TO OCCUR  ON  DAY    1 JUN 1974
     EVENT       501               *START 4 CHANNEL AUDIO DEVELOPMENT* IS TO OCCUR  ON  DAY    1 JUN 1973

ACTIVITIES ARE SCHEDULED TO START ON THE MORNING OF THE SPECIFIED WORKDAY OR DATE
AND TO FINISH ON THE AFTERNOON OF THE SPECIFIED WORKDAY OR DATE.

EVENTS ARE SCHEDULED FOR THE MORNING AFTER THE LAST PRECEDING ACTIVITY FINISHES,
EXCEPT FOR EVENTS OCCURRING ON THE PROJECT COMPLETION DATE.

ACTIVITIES AND EVENTS ARE SORTED ACCORDING TO   NODE NUMBERS

'C' IN MARGIN DESIGNATES A CRITICAL ACTIVITY OR EVENT.


HOLIDAYS AND NON-WORKING DAYS FOR PROJECT 'ATSF-TV '

                   4 JUL 1973
                   3 SEP 1973
                  22 NOV 1973
                  25 DEC 1973
                   1 JAN 1974
                  30 MAY 1974
                   4 JUL 1974
                   2 SEP 1974
                  21 NOV 1974
                  25 DEC 1974
                   1 JAN 1975
                  30 MAY 1975
                   4 JUL 1975
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*************************************************************************************************
   EVENT DESCRIPTION                                                        EARLY TIME      LATE TIME
*************************************************************************************************

C        501  *START 4 CHANNEL AUDIO DEVELOPMENT*                            1 JUN 1973      1 JUN 1973
              PRECEDES        511         521         531                     1               1

C        502  *4 CHANNEL IMPLEMENTATION STARTED*                            31 MAY 1974     31 MAY 1974
              PRECEDES        518         528                               255             255

C        503  *4 CHANNEL REPORT STARTED*                                    13 SEP 1974     13 SEP 1974
              PRECEDES        504                                           328             328

C        505  *FINAL REPORT SUBMITTED*                                      28 AUG 1975     28 AUG 1975
              SINK EVENT                                                    572             572

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                              A C T I V I T Y   S C H E D U L E
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ACTIVITY  DESCRIPTION                           DURA-   EARLY     LATE      EARLY     LATE      FREE   TOTAL
                                                TION    START     START     FINISH    FINISH    FLOAT  FLOAT
*********************************************************************************************************

   504  4 CHAN REPORT COMPLETED                  60    13SEP74    5JUN75    6DEC74   28AUG75   185    185
          PRECEDES       505                             328        513       387       572
   511  4 CHAN RDG OBJECTIVES SPECIFIED          60     1JUN73   13JUL73   24AUG73    5OCT73     0     29
          PRECEDES       512       514       517          1         30        60        89
   512  4 CHAN RDG AUDIO MATERIALS DVLPD        140    27AUG73   15OCT73   14MAR74    1MAY74     0     34
          PRECEDES       513                              61         95       200       234
   513  4 CHAN RDG AUDIO MATERIALS RCRDD          5    15MAR74    2MAY74   21MAR74    8MAY74     5     34
          PRECEDES       516                             201        235       205       239
   514  4 CHAN RDG SUPPORT MTLS DVLPD           140    27AUG73    8OCT73   14MAR74   24APR74     0     29
          PRECEDES       515                              61         90       200       229
   515  4 CHAN RDG SUPPORT MTLS PRINTED          10    15MAR74   25APR74   28MAR74    8MAY74     0     29
          PRECEDES       516                             201        230       210       239
   516  4 CHAN RDG PRCDRES MANUAL DVLPD          15    29MAR74    9MAY74   18APR74   29MAY74    29     29
          PRECEDES       502                             211        240       225       254
   517  4 CHAN RDG EVAL PRCDRS DVLPD             10    27AUG73   16MAY74   10SEP73   29MAY74   184    184
          PRECEDES       502                              61        245        70       254
   518  4 CHAN RDG PRGRM IMPLEMENTED             40    31MAY74    3JUL74   26JUL74   28AUG74     0     23
          PRECEDES       519                             255        278       294       317
   519  4 CHAN RDG PRGRM EVALUATED               10    29JUL74   29AUG74    9AUG74   12SEP74    23     23
          PRECEDES       503                             295        318       304       327
   521  4 CHAN CAR ED OBJECTIVES DVLPD           60     1JUN73   13JUL73   24AUG73    5OCT73     0     29
          PRECEDES       522       524       527          1         30        60        89
   522  4 CHAN CAR ED AUDIO MTLS DVLPD          140    27AUG73   15OCT73   14MAR74    1MAY74     0     34
          PRECEDES       523                              61         95       200       234
   523  4 CHAN CAR ED AUDIO MTLS RECORDED         5    15MAR74    2MAY74   21MAR74    8MAY74     5     34
          PRECEDES       526                             201        235       205       239
   524  4 CHAN CAR ED SUPPORT MTLS DVLPS        140    27AUG73    8OCT73   14MAR74   24APR74     0     29
          PRECEDES       525                              61         90       200       229
   525  4 CHAN CAR ED SUPPORT MTLS PRINTED       10    15MAR74   25APR74   28MAR74    8MAY74     0     29
          PRECEDES       526                             201        230       210       239
   526  4 CHAN CAR ED PRCDRS MANUAL DVLPD        15    29MAR74    9MAY74   18APR74   29MAY74    29     29
          PRECEDES       502                             211        240       225       254
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      PRECEDES       502                          61       245       70       254
 528  4 CHAN CAR ED PRGRM IMPLEMENTED        4C   31MAY74   3JUL74   26JUL74   28AUG74     0    23
      PRECEDES       529                         255       278       294       317
 529  4 CHAN CAR ED PRGRM EVALUATED          1C   29JUL74  29AUG74    9AUG74   12SEP74    23    23
      PRECEDES       503                         295       318       304       327
 531  4 CHAN DELIVERY SPECS DVLPD            8C    1JUN73   6JUL73   24SEP73   26OCT73     0    24
      PRECEDES       532       534                 1        25        80       104
 532  4 CHAN HRDWARE CONFIG ORDRD            10   25SEP73  29OCT73    8OCT73    9NOV73     0    24
      PRECEDES       533                          81       105        90       114
 533  4 CHAN HRDWARE INSTALLED              12C    9OCT73  12NOV73   28MAR74    1MAY74     0    24
      PRECEDES       535                          91       115       210       234
 534  4 CHAN SAMPLE MTLS DVLPD               2C   25SEP73   4APR74   22OCT73    1MAY74   110   134
      PRECEDES       535                          81       215       100       234
 535  4 CHAN SYSTEM PILOT TESTED             2C   29MAR74   2MAY74   25APR74   29MAY74    24    24
      PRECEDES       502                         211       235       230       254

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                        E N D   O F   S C H E D U L E
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E. RESOURCE ALLOCATIONS

Fiscal resources required for Mission 4.0 are specified in the budget section. The staff responsible for this mission were as follows:

Coordinator of Four-channel Programs - Frank Colton

Reading Specialist - Alice Martinson, Phase II

Graduate Assistant - Gail Attas, Phase II

F. SUMMARY OF EVALUATION ACTIVITIES

Formative Evaluation: involved assisting the four-channel component evolve procedures for the development of questions and explore ways to exploit the auditory media and immediate feedback capabilities of four-channel audio. The Evaluation Component developed instruments and experimental studies to measure technical and content features of the four-channel tapes, user-satisfaction with the equipment and the tapes, and the effectiveness of four-channel audio.

More specifically, the Evaluation Component:

*4.7.2. expanded with the component director and his staff the functions of four-channel audio from an instrument for review reinforcement to an instrument for instruction and formative evaluation, and posed alternative ways to capitalize on the auditory nature of the media;

4.7.3. specified course objectives behaviorally and assisted with construction of prototype questions;

4.7.5. produced a scale for experts and users to rate their satisfaction with the equipment and tapes;

4.7.6. had scales checked by measurement expert, reviewed by the Instrument Review Committee, and aproved by ARC;

*Numbers refer to specific activities outlined in the evaluation mission description and thus are non-consecutive.

4.7.7. tested the four-channel equipment and selected tapes for each course prior to the broadcast of the course;

4.7.8. administered a multi-group experimental study in each course prior to broadcast to assess the relative effectiveness of written and auditory four-channel questions and explanations and the effectiveness of the video alone, the video plus four-channel, and the video plus four-channel and ancillary activities;

4.7.10. provided site coordinators with instructions for the administration of evaluation devices and studies;

Summative Evaluation: involved documenting procedures and problems related to four-channel audio during the administration of the course and measuring the impact of four-channel audio in its position in the learning sequence.

More specifically, the Evaluation Component:

4.7.11. had users rate their satisfaction with the tapes and the equipment;

4.7.17. obtained response frequencies for items in order to validate the questions and assess the effectiveness of the video in conveying information;

4.7.16. performed four in-field experimental studies on 2 programs from the reading and 2 from the career education summer courses to measure user-satisfaction and the additive impact four-channel audio had in the learning sequence of video, four-channel, ancillary activities;

4.7.18. documented the success of the Four-channel Audio Component in meeting component objectives;

4.7.20. documented the problems and reactions of RESA personnel to four-channel audio;

4.7.21. evaluated the adequacy of satellite transmission of the tapes and the functioning of the four-channel equipment;

4.7.22. wrote five technical reports that contained sections on the effectiveness of the procedures and products developed by the Four-channel Audio Component;

4.7.23. analyzed the cost of the four-channel audio products in relation to the cost of similar programs and/or such alternate delivery systems as cassettes or written programs.

Specific Evaluation findings related to Four-channel Audio may be found in the following Technical Reports:

TR#3	Formative Evaluation Study of Diagnostic and Prescriptive Reading Course
TR#5	Performance of AESP Transmission/Reception Equipment (Summer and Fall, 1974)
TR#6	User Ratings of Instructional Activities: Diagnostic and Prescriptive Reading Instruction (Summer, 1974)
TR#7	User Ratings of Instructional Activities: Career Education in the Elementary Grades (Summer, 1974)
TR#12	Summative Evaluation of Diagnostic and Prescriptive Reading Instruction K-6 Course (Spring, 1975)

G. RECOMMENDATIONS: In some ways the technical requirements of the four-channel audio system worked to shape the content of the four-channel scripts. For example, script writers tailored explanations of all four alternative selections to closely approximate each other in time (usually 20 to 25 seconds) so that no listener had to hear very much blank time. Obviously, script writers had to begin by writing the correct alternative explanation, time it, and write the other three alternatives to conform to it in terms of time. In some cases this even meant going back and writing a different alternative, one for which an alternative explanation would be written which would "fit".

Another factor which shaped the content of four-channel audio programs was the time allotment of 15 minutes for each program. Usually, four complete question sets (question set-up, alternative choices, alternative explanations) could be done within that period. However, sometimes question sets had to be lengthened or shortened to help conform to time requirements. Of course, short summaries were often used at the end of the programs. Additionally, approximately two minutes were used at the beginning of each program to go over instructions for use of the four-channel system and to clarify any special scoring instruments being used at that time. (A back-up scoring system was employed and actually used when technical difficulties were encountered in some of the early programs.)

Clearly the four-channel audio experiment of the present study has only scratched the surface in terms of potential uses of this media configuration:

1. The four channels could be used for simultaneous presentation of the same content but in four different languages.

2. A general situation could be described but then have information relative to specialized viewpoints, i.e., student, teacher, supervisor and principal, be included.

3. Future efforts in the four-channel format might profit from this project's constraint of having content so dependent upon the completion of other components.

4. Four-channel audio should not be assumed as the best or even the most convenient way to reinforce that which precedes it. It might well be that using the four-channel format in a problem-solving sequence (problem-awareness, problem-statement formulation, search for and weighing of alternative solutions, and implementation) is a more viable approach.

5. Future four-channel audio uses might include incorporating slides and or video segments as a visual stimulus to illustrate or pose problems for four-channel audio review.

MISSION 5.0 TV PRODUCTION AND BROADCASTING

A. OBJECTIVE:

1. To produce courses and seminars developed in Reading and Career Education
2. To deliver through ATS-6 courses and seminars developed in Reading and Career Education
3. To produce and record 26 Four-channel Audio programs.

B. OUTCOME: A maximum of 1200 teachers received televised and audio coursework in either Reading or Career Education by May 20, 1975.

C. MISSION DESCRIPTION: The Television Production and Broadcasting mission produced a total of 85 instructional units. It produced 59 video instructional units and transmitted them via ATS-6, with the 26 four-channel units being transmitted from Denver. Twenty-four units were prerecorded and distributed on a four per week schedule during July and August of 1974. During this time period, 7 live, one-way video, two-way audio seminars and 24 four-channel audio instructional units were presented to augment the prerecorded presentations.

In the fall of 1974 16 live interactive seminars in Career Education were produced and broadcast. Seven new programs were produced in Reading and combined with 10 previously developed to offer an expanded course in Reading in the Spring of 1975. Five seminars and 2 four-channel audio segments were produced to supplement the prerecorded presentations.

Members of the TV Production and Broadcasting Mission worked closely with subject matter experts in Reading and Career Education throughout the planning, production and broadcasting of the instructional units. The following is a descriptive narrative and overview of activities associated with the production process.

1. PRODUCTION PROCESS: Following a series of approach meetings with subject-matter experts, precise course objectives were established and understandings concerning mutual vocabulary and general format were defined. From this, a course outline was developed. It was a program-by-program, topical outline from which certain general assumptions were made. For example, it is at this point that the first plans for a studio set design were initiated.

The individual program outline was the next step. This outline was a precise point-by-point delineation of each concept presented in a single lesson. It came as a result of agreement between the subject-matter expert and the television producer.

The next step was the individual program script. It was a result of the process of writing and rewriting by the subject-matter expert and the TV producer. The point at which this script was said complete was the departure for the execution phase in which motion picture film crews were dispersed to previously decided sites, and the location filming process began. It was also the point at which the art and graphic needs were described and ordered from the art department. At a point at least six weeks beyond the completion of the individual program script, the elements of the studio setting, the finished product of the location filming, the finished products of the art and graphics department, the subject-matter expert, and the TV producer and his crew, came together in the television studio to assemble elements of the program. This was called the studio production phase and its purpose was to assemble on video tape all of the elements necessary for a single program.

The next phase was post production editing. It took place, at the most propitious time, after the completion of studio production and before the scheduled broadcast. During post production editing, all the elements were assembled, in order, on a single videotape, and at the completion of post production editing, the program was ready for broadcast.

In the case of the live, two-way, interactive seminar presentations, the same general approach was used with the obvious exception there was no post production editing phase.

The following is an overview of activities associated with the transmission of the pretaped and live interactive seminars.

2. BROADCASTING PROCESS: In Phase III the RCC began transmission of the 69 instructional television units. Twenty-four prerecorded units and seven live interactive seminars were broadcast during July and August, 1974. In the Fall semester of 1974 16 live interactive television units were broadcast. In Spring of 1975 17 prerecorded television units were broadcast, as well as five television seminars.

When the videotape programs were delivered to the satellite from the RCC, they were played back from 2" quadruplex recordings. At each designated broadcast time, two video tape machines were in operation, playing the same program simultaneously. In case of machine malfunction, this backup procedure allowed instantaneous switching to the second machine.

In the case of the interactive seminars, each was fed live, on schedule from the RCC. Each of the seminars was recorded as they were presented and recordings are available for archival purposes.

During the transmission of the live interactive seminars, the ATS-3 satellite was utilized for communication of questions and comments to the RCC from the RESAs. Through the use of the ATS-3 the five main RESAs had contact prior to, during and following the broadcast of the seminars. Questions and comments from the ancillary RESAs were fed to the main RESAs by landline teletype, filtered there for redundancy and appropriateness, and fed through the ATS-3 satellite to the RCC where these questions and comments were filtered and passed to the television studio for response.

3. Working Relationship with Other Project Staff and External Agencies

Due to extremely tight deadlines, the development of working relationships was necessarily initially compressed. As time allowed in later phases of the project, these relationships were strengthened and occasionally redefined.

Within the RCC, the Television Component dealt with Management, the content components, Four-channel Audio, and Evaluation. The relationship with Information Systems required little exchange of services and consisted mostly of scheduling equipment and shared spaces.

The basic function of the Management component was coordinating and facilitating the work of the various missions. In the early phases, this was the most efficient and effective approach toward accommodating short timelines. Major decisions affecting the project were made in concert with all the component directors. During later phases of the project, Management functions became more centralized and less consultative in nature.

A highly efficient working relationship was established almost immediately with the Reading Component. Problems within the Career Education Component resulted in lost time. However, personnel changes made a strong working relationship possible late in Phase II.

Television production personnel, working closely with the Four-channel Audio Component Director, produced 26 Four-channel audio programs.

Due to the press of time, an efficient working relationship with the evaluation component was necessarily postponed until early in Phase III. Since that time, television personnel and evaluation personnel have worked closely in gathering summative data.

The AESP Engineering Component was external to the RCC and attached directly to the Appalachian Regional Commission with supervisory ties from the Satellite Technology Demonstration at Denver. Although the television component's relationships on all three fronts were most cordial, the communication lines were confusing, in that conflicting or incomplete information frequently came from one or more of the sources, and much time had to be spent trying to determine what should be done.

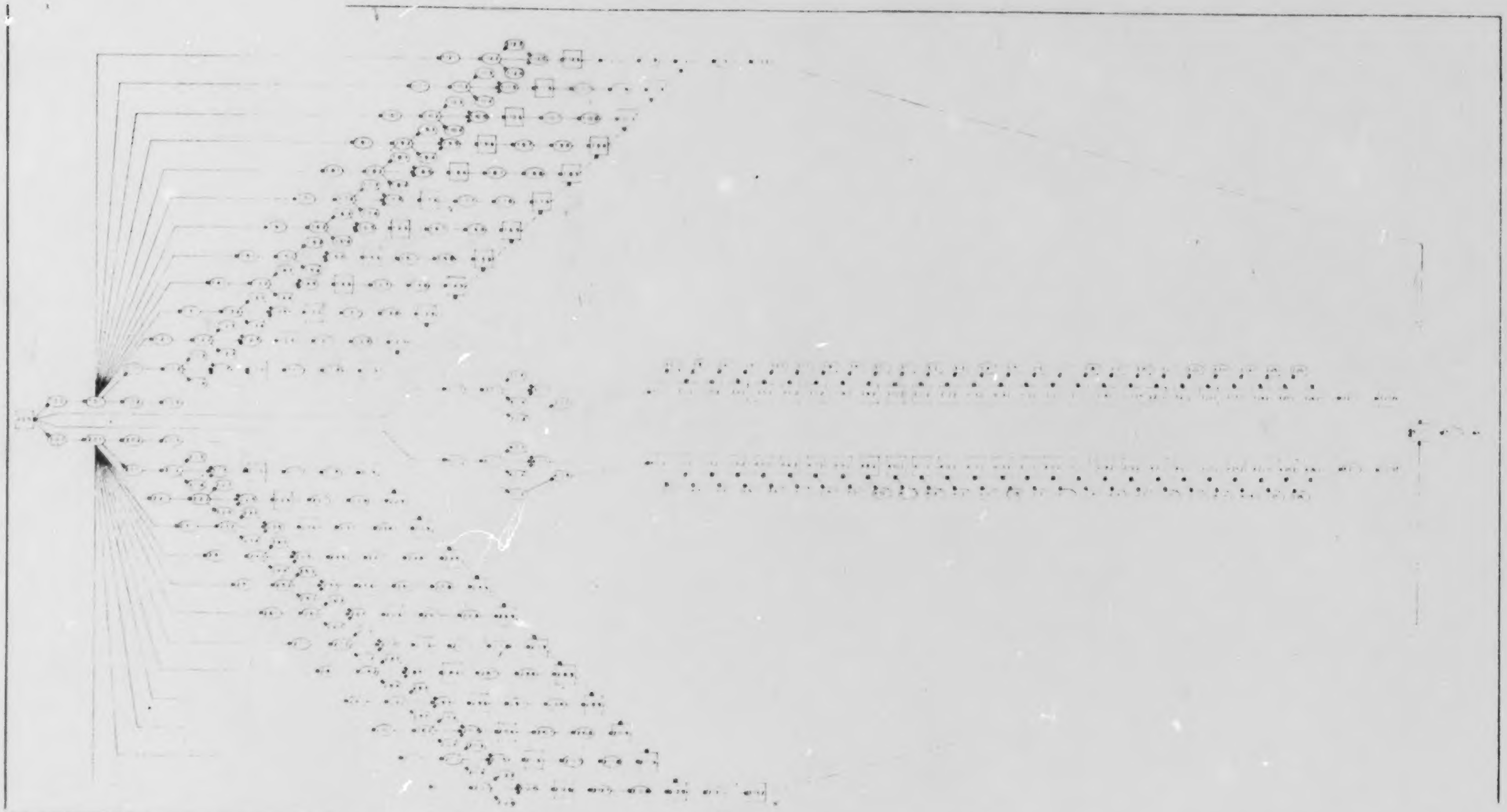
In relating the Appalachian Regional Commission, on matters other than technical, sometimes decisions were made in Washington and/or by the RCC Director that the Television Component realized were made because of an incomplete understanding of educational television operations. These decisions often made the task of the Television Component more difficult to accomplish, but were resolved through mutual cooperation.

The relationship with the RESA directors and staff was rewarding. To a great extent the success of the televised materials depended upon the coordinating efforts carried forth in the field during both the filming and the delivery of the programs.

In all cases it must be remembered that there was little time to develop and delineate proper relationships prior to undertaking a series of very complex tasks. The success of this project has rested on the fact that the personnel gathered at the RCC, at ARC, and at the RESAs were task oriented professionals with a common desire to see the project succeed.

D. TIME LINES

The Time Lines for the Television Component appear on the following pages. These time lines were designed to be planning tools for the development phase of the project. They accurately reflect the milestones of the project and start and finish dates with one exception. Development of a second reading course replaced the planned second career education seminar. Sixteen programs in the first career education seminar course were produced and broadcast. The remainder were dropped to facilitate development of the reading course. Time line reports for the second reading course production were provided to ARC on a monthly basis.



APPALACHIAN APPLIED TECHNOLOGY SATELLITE PROJECT	SUMMARY NETWORK FOR MISSION 5.0 —	START: 1 JULY 1973 FINISH 30 SEPT. 1974	FIG 6.0
UNIVERSITY OF KENTUCKY	TV PRODUCTION AND BROADCASTING	PROJECT DIRECTOR LARIMORE NETWORK DEVELOPER: BLACKHURST	28 JUNE 73

TABLE 6.0

SCHEDULE FOR MISSION 5.0 TV PRODUCTION AND BROADCASTING

NOTE: This schedule was developed for 52 live seminars. It is being revised to schedule 44 live seminars.

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* S C H E D U L E    F O R    P R O J E C T    'ATSF-TV ' *
************************************************************


PROJECT DURATION IS   573 WORK DAYS,  WORK WEEK IS 5 DAYS
WORK IS SCHEDULED TO START ON THE MORNING OF  1 JUN 1973
AND TO BE COMPLETED ON THE AFTERNOON OF 29 AUG 1975.

THE PROJECT 'ATSF-TV ' NETWORK HAS
 245 ACTIVITIES OF WHICH  245 APPEAR ON THIS REPORT OR SCHEDULE
 107 MILESTONE EVENTS OF WHICH  107  APPEAR ON THIS REPORT OR SCHEDULE

THE FOLLOWING USER-ASSIGNED CONSTRAINTS HAVE BEEN USED IN SCHEDULING.

     EVENT     600          *FINAL REPCRT SUBMITTED*          IS TO OCCUR  ON  DAY    1 SEP 1975
     EVENT     500          *FINAL REPORT STARTED*            IS TO OCCUR  ON  DAY    1 APR 1975
     EVENT    4272          *SEMINAR 2 GRADES ASSIGNED*       IS TO OCCUR  ON  DAY   27 MAR 1975
     EVENT    4262          *SEMINAR 2 BROADCAST 26*          IS TO OCCUR  ON  DAY   13 MAR 1975
     EVENT    4252          *SEMINAR 2 BROADCAST 25*          IS TO OCCUR  ON  DAY    6 MAR 1975
     EVENT    4242          *SEMINAR 2 BROADCAST 24*          IS TO OCCUR  ON  DAY   27 FEB 1975
     EVENT    4232          *SEMINAR 2 BROADCAST 23*          IS TO OCCUR  ON  DAY   20 FEB 1975
     EVENT    4222          *SEMINAR 2 BROADCAST 22*          IS TO OCCUR  ON  DAY   13 FEB 1975
     EVENT    4212          *SEMINAR 2 BROADCAST 21*          IS TO OCCUR  ON  DAY    6 FEB 1975
     EVENT    4202          *SEMINAR 2 BROADCAST 20*          IS TO OCCUR  ON  DAY   30 JAN 1975
     EVENT    4192          *SEMINAR 2 BROADCAST 19*          IS TO OCCUR  ON  DAY   23 JAN 1975
     EVENT    4182          *SEMINAR 2 BROADCAST 18*          IS TO OCCUR  ON  DAY   16 JAN 1975
     EVENT    4172          *SEMINAR 2 BROADCAST 17*          IS TO OCCUR  ON  DAY    9 JAN 1975
     EVENT    4162          *SEMINAR 2 BROADCAST 16*          IS TO OCCUR  ON  DAY    2 JAN 1975
     EVENT    4152          *SEMINAR 2 BROADCAST 15*          IS TO OCCUR  ON  DAY   19 DEC 1974
     EVENT    4142          *SEMINAR 2 BROADCAST 14*          IS TO OCCUR  ON  DAY   12 DEC 1974
     EVENT    4132          *SEMINAR 2 BROADCAST 13*          IS TO OCCUR  ON  DAY    5 DEC 1974
     EVENT    4122          *SEMINAR 2 BROADCAST 12*          IS TO OCCUR  ON  DAY   28 NOV 1974
     EVENT    4112          *SEMINAR 2 BROADCAST 11*          IS TO OCCUR  ON  DAY   14 NOV 1974
     EVENT    4102          *SEMINAR 2 BROADCAST 10*          IS TO OCCUR  ON  DAY    7 NOV 1974
     EVENT     492          *SEMINAR 2 BROADCAST 9*           IS TO OCCUR  ON  DAY   31 OCT 1974
     EVENT     482          *SEMINAR 2 BROADCAST 8*           IS TO OCCUR  ON  DAY   24 OCT 1974
     EVENT     472          SEMINAR 2 BROADCAST 7*            IS TO OCCUR  ON  DAY   17 OCT 1974
     EVENT     462          *SEMINAR 2 BROADCAST 6*           IS TO OCCUR  ON  DAY   10 OCT 1974
     EVENT     452          *SEMINAR 2 BROADCAST 5*           IS TO OCCUR  ON  DAY    3 OCT 1974
     EVENT     442          *SEMINAR 2 BROADCAST 4*           IS TO OCCUR  ON  DAY   26 SEP 1974
     EVENT     432          *SEMINAR 2 BROADCAST 3*           IS TO OCCUR  ON  DAY   19 SEP 1974
     EVENT     422          *SEMINAR 2 BROADCAST 2*           IS TO OCCUR  ON  DAY   12 SEP 1974
     EVENT     412          *SEMINAR 2 BROADCAST 1*           IS TO OCCUR  ON  DAY    5 SEP 1974
     EVENT    3272          *SEMINAR 1 GRADES ASSIGNED*       IS TO OCCUR  ON  DAY   25 MAR 1975
     EVENT    3262          *SEMINAR 1 BROADCAST 26*          IS TO OCCUR  ON  DAY   11 MAR 1975
     EVENT    3252          *SEMINAR 1 BROADCAST 25*          IS TO OCCUR  ON  DAY    4 MAR 1975
     EVENT    3242          *SEMINAR 1 BROADCAST 24*          IS TO OCCUR  ON  DAY   25 FEB 1975
     EVENT    3232          *SEMINAR 1 BROADCAST 23*          IS TO OCCUR  ON  DAY   18 FEB 1975
     EVENT    3222          *SEMINAR 1 BROADCAST 22*          IS TO OCCUR  ON  DAY   11 FEB 1975
     EVENT    3212          *SEMINAR 1 BROADCAST 21*          IS TO OCCUR  ON  DAY    4 FEB 1975
     EVENT    3202          *SEMINAR 1 BROADCAST 20*          IS TO OCCUR  ON  DAY   28 JAN 1975
EVENT      3192           •SEMINAR 1 BROADCAST 19•                    IS TO OCCUR  ON  DAY   21 JAN 1975
EVENT      3182           •SEMINAR 1 BROADCAST 18•                    IS TO OCCUR  ON  DAY   14 JAN 1975
EVENT      3172           •SEMINAR 1 BROADCAST 17•                    IS TO OCCUR  ON  DAY    7 JAN 1975
EVENT      3162           •SEMINAR 1 BROADCAST 16•                    IS TO OCCUR  ON  DAY   17 DEC 1974
EVENT      3152           •SEMINAR 1 BROADCAST 15•                    IS TO OCCUR  ON  DAY   10 DEC 1974
EVENT      3142           •SEMINAR 1 BROADCAST 14•                    IS TO OCCUR  ON  DAY    3 DEC 1974
EVENT      3132           •SEMINAR 1 BROADCAST 13•                    IS TO OCCUR  ON  DAY   26 NOV 1974
EVENT      3122           •SEMINAR 1 BROADCAST 12•                    IS TO OCCUR  ON  DAY   19 NOV 1974
EVENT      3112           •SEMINAR 1 BROADCAST 11•                    IS TO OCCUR  ON  DAY   12 NOV 1974
EVENT      3102           •SEMINAR 1 BROADCAST 10•                    IS TO OCCUR  ON  DAY    5 NOV 1974
EVENT       392           •SEMINAR 1 BROADCAST 9•                     IS TO OCCUR  ON  DAY   29 OCT 1974
EVENT       382           SEMINAR 1 BROADCAST 8•                      IS TO OCCUR  ON  DAY   22 OCT 1974
EVENT       372           •SEMINAR 1 BROADCAST 7•                     IS TO OCCUR  ON  DAY   15 OCT 1974
EVENT       362           •SEMINAR 1 BROADCAST 6•                     IS TO OCCUR  ON  DAY    8 OCT 1974
EVENT       352           •SEMINAR 1 BROADCAST 5•                     IS TO OCCUR  ON  DAY    1 OCT 1974
EVENT       342           •SEMINAR 1 BROADCAST 4•                     IS TO OCCUR  ON  DAY   24 SEP 1974
EVENT       332           •SEMINAR 1 BROADCAST 3•                     IS TO OCCUR  ON  DAY   17 SEP 1974
EVENT       322           •SEMINAR 1 BROADCAST 2•                     IS TO OCCUR  ON  DAY   10 SEP 1974
EVENT       312           •SEMINAR 1 BROADCAST 1•                     IS TO OCCUR  ON  DAY    3 SEP 1974
EVENT      2132           •CAREER ED COURSE GRADES ASSIGNED•          IS TO OCCUR  ON  DAY   12 SEP 1974
EVENT      2129           •CAREER ED 12 BROADCAST•                    IS TO OCCUR  ON  DAY   29 AUG 1974
EVENT      2119           •CAREER ED 11 BROADCAST•                    IS TO OCCUR  ON  DAY   22 AUG 1974
EVENT      2109           •CAREER ED 10 BROADCAST•                    IS TO OCCUR  ON  DAY   15 AUG 1974
EVENT       299           •CAREER ED 9 BROADCAST•                     IS TO OCCUR  ON  DAY    8 AUG 1974
EVENT       289           •CAREER ED 8 BROADCAST•                     IS TO OCCUR  ON  DAY    1 AUG 1974
EVENT       279           •CAREER ED 7 BROADCAST•                     IS TO OCCUR  ON  DAY   25 JUL 1974
EVENT       269           •CAREER ED 6 BROADCAST•                     IS TO OCCUR  ON  DAY   18 JUL 1974
EVENT       259           •CAREER ED 5 BROADCAST•                     IS TO OCCUR  ON  DAY   11 JUL 1974
EVENT       249           •CAREER ED 4 BROADCAST•                     IS TO OCCUR  ON  DAY   27 JUN 1974
EVENT       239           •CAREER ED 3 BROADCAST•                     IS TO OCCUR  ON  DAY   20 JUN 1974
EVENT       229           •CAREER ED 2 BROADCAST•                     IS TO OCCUR  ON  DAY   13 JUN 1974
EVENT       219           •CAREER ED 1 BROADCAST•                     IS TO OCCUR  ON  DAY    6 JUN 1974
EVENT      2126           •CAR ED 12 STUDIO PRODUCTION STARTED        IS TO OCCUR  ON  DAY   10 JUN 1974
EVENT      2116           •CAR ED 11 STUDIO PRODUCTION STARTED        IS TO OCCUR  ON  DAY   20 MAY 1974
EVENT      2106           •CAR ED 10 STUDIO PRODUCTION STARTED        IS TO OCCUR  ON  DAY   29 APR 1974
EVENT       296           •CAR ED 9 STUDIO PRODUCTION STARTED•        IS TO OCCUR  ON  DAY    8 APR 1974
EVENT       286           •CAR ED 8 STUDIO PRODUCTION STARTED•        IS TO OCCUR  ON  DAY   18 MAR 1974
EVENT       276           •CAR ED 7 STUDIO PRODUCTION STARTED•        IS TO OCCUR  ON  DAY   25 FEB 1974
EVENT       266           •CAR ED 6 STUDIO PRODUCTION STARTED•        IS TO OCCUR  ON  DAY    4 FEB 1974
EVENT       256           •CAR ED 5 STUDIO PRODUCTION STARTED•        IS TO OCCUR  ON  DAY   14 JAN 1974
EVENT       246           •CAR ED 4 STUDIO PRODUCTION STARTED•        IS TO OCCUR  ON  DAY   10 DEC 1973
EVENT       236           •CAR ED 3 STUDIO PRODUCTION STARTED•        IS TO OCCUR  ON  DAY   19 NOV 1973
EVENT       226           •CAR ED 2 STUDIO PRODUCTION STARTED•        IS TO OCCUR  ON  DAY   29 OCT 1973
EVENT       216           •CAR ED 1 STUDIO PRODUCTION STARTED•        IS TO OCCUR  ON  DAY    8 OCT 1973
EVENT      1132           •RDG COURSE GRADES ASSIGNED•                IS TO OCCUR  ON  DAY    2 SEP 1974
EVENT      1129           •RDG PRG 12 BROADCAST•                      IS TO OCCUR  ON  DAY   20 AUG 1974
EVENT      1119           •RDG PRG 11 BROADCAST•                      IS TO OCCUR  ON  DAY   13 AUG 1974
EVENT      1109           •RDG PRG 10 BROADCAST•                      IS TO OCCUR  ON  DAY    6 AUG 1974
EVENT       199           •RDG PRG 9 BROADCAST•                       IS TO OCCUR  ON  DAY   30 JUL 1974
EVENT       189           •RDG PRG 8 BROADCAST•                       IS TO OCCUR  ON  DAY   23 JUL 1974
EVENT       179           •RDG PRG 7 BROADCAST•                       IS TO OCCUR  ON  DAY   16 JUL 1974
EVENT       169           •RDG PRG 6 BROADCAST•                       IS TO OCCUR  ON  DAY    9 JUL 1974
EVENT       159           •RDG PRG 5 BROADCAST•                       IS TO OCCUR  ON  DAY    2 JUL 1974
EVENT       149           •RDG PRG 4 BROADCAST•                       IS TO OCCUR  ON  DAY   25 JUN 1974
EVENT       139           •RDG PRG 3 BROADCAST•                       IS TO OCCUR  ON  DAY   18 JUN 1974
EVENT       129           •RDG PRG 2 BROADCAST•                       IS TO OCCUR  ON  DAY   11 JUN 1974
EVENT       119           •RDG PRG 1 BROADCAST•                       IS TO OCCUR  ON  DAY    4 JUN 1974
EVENT      1126           •RDG PRG 12 STUDIO PRODUCTION STARTE        IS TO OCCUR  ON  DAY    3 JUN 1974
EVENT      1116           •RDG PRG 11 STUDIO PRODUCTION STARTE        IS TO OCCUR  ON  DAY   13 MAY 1974
EVENT      1106           •RDG PRG 10 STUDIO PRODUCTION STARTE        IS TO OCCUR  ON  DAY   22 APR 1974
EVENT       196           •RDG PRG 9 STUDIO PRODUCTION STARTED        IS TO OCCUR  ON  DAY    1 APR 1974
EVENT        106          *RDG PRG 8 STUDIO PRODUCTION STARTED  IS TO OCCUR  ON  DAY  11 MAR 1974
EVENT        176          *RDG PRG 7 STUDIO PRODUCTION STARTED  IS TO OCCUR  ON  DAY  12 FEB 197
EVENT        166          *RDG PRG 6 STUDIO PRODUCTION STARTED  IS TO OCCUR  ON  DAY  28 JAN 1974
EVENT        156          *RDG PRG 5 STUDIO PRODUCTION STARTED  IS TO OCCUR  ON  DAY   7 JAN 1974
EVENT        146          *RDG PRG 4 STUDIO PRODUCTION STARTED  IS TO OCCUR  ON  DAY   3 DEC 1973
EVENT        136          *RDG PRG 3 STUDIO PRODUCTION STARTED  IS TO OCCUR  ON  DAY  12 NOV 1973
EVENT        126          *RDG PRG 2 STUDIO PRODUCTION STARTED  IS TO OCCUR  ON  DAY  22 OCT 1973
EVENT        116          *RDG PRG 1 STUDIO PRODUCTION STARTED  IS TO OCCUR  ON  DAY   1 OCT 1973
EVENT          0          *PROJECT STARTED*                     IS TO OCCUR  ON  DAY   1 JUN 1973

      ACTIVITIES ARE SCHEDULED TO START ON THE MORNING OF THE SPECIFIED WORKDAY OR DATE
      AND TO FINISH ON THE AFTERNOON OF THE SPECIFIED WORKDAY OR DATE.

      EVENTS ARE SCHEDULED FOR THE MORNING AFTER THE LAST PRECEDING ACTIVITY FINISHES,
      EXCEPT FOR EVENTS OCCURRING ON THE PROJECT COMPLETION DATE.

      ACTIVITIES AND EVENTS ARE SORTED ACCORDING TO   NODE NUMBERS

      'C' IN MARGIN DESIGNATES A CRITICAL ACTIVITY OR EVENT.


      HOLIDAYS AND NON-WORKING DAYS FOR PROJECT 'ATSF-TV '

                     4 JUL 1973
                     3 SEP 1973
                    22 NOV 1973
                    25 DEC 1973
                     1 JAN 1974
                    30 MAY 1974
                     4 JUL 1974
                     2 SEP 1974
                    21 NOV 1974
                    25 DEC 1974
                     1 JAN 1975
                    30 MAY 1975
                     4 JUL 1975
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                                  ****************************
********************************************************************************************
     EVENT DESCRIPTION                                          EARLY TIME      LATE TIME
********************************************************************************************
C          0  *PROJECT STARTED*                                1 JUN 1973      1 JUN 1973
              PRECEDES      100       200       300       400       1               1
C        116  *RDG PRG 1 STUDIO PRODUCTION STARTED             1 OCT 1973      1 OCT 1973
              PRECEDES      117                                    85              85
C        119  *RDG PRG 1 BROADCAST*                            4 JUN 1974      4 JUN 1974
              PRECEDES      129                                   257             257
C        126  *RDG PRG 2 STUDIO PRODUCTION STARTED            22 OCT 1973     22 OCT 1973
              PRECEDES      127                                   100             100
C        129  *RDG PRG 2 BROADCAST*                           11 JUN 1974     11 JUN 1974
              PRECEDES      139                                   262             262
C        136  *RDG PRG 3 STUDIO PRODUCTION STARTED            12 NOV 1973     12 NOV 1973
              PRECEDES      137                                   115             115
C        139  *RDG PRG 3 BROADCAST*                           18 JUN 1974     18 JUN 1974
              PRECEDES      149                                   267             267
C        146  *RDG PRG 4 STUDIO PRODUCTION STARTED             3 DEC 1973      3 DEC 1973
              PRECEDES      147                                   129             129
C        149  *RDG PRG 4 BROADCAST*                           25 JUN 1974     25 JUN 1974
              PRECEDES      159                                   272             272
C        156  *RDG PRG 5 STUDIO PRODUCTION STARTED             7 JAN 1974      7 JAN 1974
              PRECEDES      157                                   152             152
C        159  *RDG PRG 5 BROADCAST*                            2 JUL 1974      2 JUL 1974
              PRECEDES      169                                   277             277
C        166  *RDG PRG 6 STUDIO PRODUCTION STARTED            28 JAN 1974     28 JAN 1974
              PRECEDES      167                                   167             167
C        169  *RDG PRG 6 BROADCAST*                            9 JUL 1974      9 JUL 1974
              PRECEDES      179                                   281             281
C        176  *RDG PRG 7 STUDIO PRODUCTION STARTED            12 FEB 1974     12 FEB 1974
              PRECEDES      177                                   178             178
C        179  *RDG PRG 7 BROADCAST*                           16 JUL 1974     16 JUL 1974
              PRECEDES      189                                   286             286
C        186  *RDG PRG 8 STUDIO PRODUCTION STARTED            11 MAR 1974     11 MAR 1974
              PRECEDES      187                                   197             197
C        189  *RDG PRG 8 BROADCAST*                           23 JUL 1974     23 JUL 1974
              PRECEDES      199                                   291             291
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C      196  *PDG PRG 9 STUDIO PRODUCTION STARTED          1 APR 1974    1 APR 1974
            PRECEDES      197                                212           212
C      199  *PDG PRG 9 BROADCAST*                        30 JUL 1974   30 JUL 1974
            PRECEDES     1109                                296           296
C      216  *CAR ED 1 STUDIO PRODUCTION STARTED*          8 OCT 1973    8 OCT 1973
            PRECEDES      217                                 90            90
C      219  *CAREER ED 1 BROADCAST*                       6 JUN 1974    6 JUN 1974
            PRECEDES      229                                259           259
C      226  *CAR ED 2 STUDIO PRODUCTION STARTED*         29 OCT 1973   29 OCT 1973
            PRECEDES      227                                105           105
C      229  *CAREER ED 2 BROADCAST*                      13 JUN 1974   13 JUN 1974
            PRECEDES      239                                264           264
C      236  *CAR ED 3 STUDIO PRODUCTION STARTED*         19 NOV 1973   19 NOV 1973
            PRECEDES      237                                120           120
C      239  *CAREER ED 3 BROADCAST*                      20 JUN 1974   20 JUN 1974
            PRECEDES      249                                269           269
C      246  *CAR ED 4 STUDIO PRODUCTION STARTED*         10 DEC 1973   10 DEC 1973
            PRECEDES      247                                134           134
C      249  *CAREER ED 4 BROADCAST*                      27 JUN 1974   27 JUN 1974
            PRECEDES      259                                274           274
C      256  *CAR ED 5 STUDIO PRODUCTION STARTED*         14 JAN 1974   14 JAN 1974
            PRECEDES      257                                157           157
C      259  *CAREER ED 5 BROADCAST*                      11 JUL 1974   11 JUL 1974
            PRECEDES      269                                283           283
C      266  *CAR ED 6 STUDIO PRODUCTION STARTED*          4 FEB 1974    4 FEB 1974
            PRECEDES      267                                172           172
C      269  *CAREER ED 6 BROADCAST*                      18 JUL 1974   18 JUL 1974
            PRECEDES      279                                288           288
C      276  *CAR ED 7 STUDIO PRODUCTION STARTED*         25 FEB 1974   25 FEB 1974
            PRECEDES      277                                187           187
C      279  *CAREER ED 7 BROADCAST*                      25 JUL 1974   25 JUL 1974
            PRECEDES      289                                293           293
C      286  *CAR ED 8 STUDIO PRODUCTION STARTED*         18 MAR 1974   18 MAR 1974
            PRECEDES      287                                202           202
C      289  *CAREER ED 8 BROADCAST*                       1 AUG 1974    1 AUG 1974
            PRECEDES      299                                298           298
C      296  *CAR ED 9 STUDIO PRODUCTION STARTED*          8 APR 1974    8 APR 1974
            PRECEDES      297                                217           217
C      299  *CAREER ED 9 BROADCAST*                       8 AUG 1974    8 AUG 1974
            PRECEDES     2109                                303           303
C      312  *SEMINAR 1 BROADCAST 1*                       3 SEP 1974    3 SEP 1974
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                     PRECEDES       321                              320            320
 C          322   *SEMINAR 1 BROADCAST 2*                      10 SEP 1974    10 SEP 1974
                   PRECEDES       331                               325            325
 C          332   *SEMINAR 1 BROADCAST 3*                      17 SEP 1974    17 SEP 1974
                   PRECEDES       341                               330            330
 C          342   *SEMINAR 1 BROADCAST 4*                      24 SEP 1974    24 SEP 1974
                   PRECEDES       351                               335            335
 C          352   *SEMINAR 1 BROADCAST 5*                       1 OCT 1974     1 OCT 1974
                   PRECEDES       361                               340            340
 C          362   *SEMINAR 1 BROADCAST 6*                       8 OCT 1974     8 OCT 1974
                   PRECEDES       371                               345            345
 C          372   *SEMINAR 1 BROADCAST 7*                      15 OCT 1974    15 OCT 1974
                   PRECEDES       381                               350            350
 C          382   SEMINAR 1 BROADCAST 8*                       22 OCT 1974    22 OCT 1974
                   PRECEDES       391                               355            355
 C          392   *SEMINAR 1 BROADCAST 9*                      29 OCT 1974    29 OCT 1974
                   PRECEDES       3101                              360            360
 C          412   *SEMINAR 2 BROADCAST 1*                       5 SEP 1974     5 SEP 1974
                   PRECEDES       421                               322            322
 C          422   *SEMINAR 2 BROADCAST 2*                      12 SEP 1974    12 SEP 1974
                   PRECEDES       431                               327            327
 C          432   *SEMINAR 2 BROADCAST 3*                      19 SEP 1974    19 SEP 1974
                   PRECEDES       441                               332            332
 C          442   *SEMINAR 2 BROADCAST 4*                      26 SEP 1974    26 SEP 1974
                   PRECEDES       451                               337            337
 C          452   *SEMINAR 2 BROADCAST 5*                       3 OCT 1974     3 OCT 1974
                   PRECEDES       461                               342            342
 C          462   *SEMINAR 2 BROADCAST 6*                      10 OCT 1974    10 OCT 1974
                   PRECEDES       471                               347            347
 C          472   SEMINAR 2 BROADCAST 7*                       17 OCT 1974    17 OCT 1974
                   PRECEDES       481                               352            352
 C          482   *SEMINAR 2 BROADCAST 8*                      24 OCT 1974    24 OCT 1974
                   PRECEDES       491                               357            357
 C          492   *SEMINAR 2 BROADCAST 9*                      31 OCT 1974    31 OCT 1974
                   PRECEDES       4101                              362            362
 C          500   *FINAL REPORT STARTED*                        1 APR 1975     1 APR 1975
                   PRECEDES       510                               467            467
 C          600   *FINAL REPORT SUBMITTED*                     29 AUG 1975    29 AUG 1975
                   SINK EVENT                                       573            573
 C         1106   *RDG PRG 10 STUDIO PRODUCTION STARTE         22 APR 1974    22 APR 1974
                   PRECEDES       1107                              227            227
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C     1109  *RDG PRG 10 BROADCAST*                                  6 AUG 1974      6 AUG 1974
            PRECEDES      1119                                         301             301
C     1116  *RDG PRG 11 STUDIO PRODUCTION STARTE                   13 MAY 1974     13 MAY 1974
            PRECEDES      1117                                         242             242
C     1119  *RDG PRG 11 BROADCAST*                                 13 AUG 1974     13 AUG 1974
            PRECEDES      1129                                         306             306
C     1126  *RDG PRG 12 STUDIO PRODUCTION STARTE                    3 JUN 1974      3 JUN 1974
            PRECEDES      1127                                         256             256
C     1129  *RDG PRG 12 BROADCAST*                                 20 AUG 1974     20 AUG 1974
            PRECEDES      1131                                         311             311
C     1132  *RDG COURSE GRADES ASSIGNED*                           30 AUG 1974     30 AUG 1974
            PRECEDES       500                                         319             319
C     2106  *CAR ED 10 STUDIO PRODUCTION STARTED                   29 APR 1974     29 APR 1974
            PRECEDES      2107                                         232             232
C     2109  *CAREER ED 10 BROADCAST*                               15 AUG 1974     15 AUG 1974
            PRECEDES      2119                                         308             308
C     2116  *CAR ED 11 STUDIO PRODUCTION STARTED                   20 MAY 1974     20 MAY 1974
            PRECEDES      2117                                         247             247
C     2119  *CAREER ED 11 BROADCAST*                               22 AUG 1974     22 AUG 1974
            PRECEDES      2129                                         313             313
C     2126  *CAR ED 12 STUDIO PRODUCTION STARTED                   10 JUN 1974     10 JUN 1974
            PRECEDES      2127                                         261             261
C     2129  *CAREER ED 12 BROADCAST*                               29 AUG 1974     29 AUG 1974
            PRECEDES      2131                                         318             318
C     2132  *CAREER ED COURSE GRADES ASSIGNED*                     12 SEP 1974     12 SEP 1974
            PRECEDES       500                                         327             327
C     3102  *SEMINAR 1 BROADCAST 10*                                5 NOV 1974      5 NOV 1974
            PRECEDES      3111                                         365             365
C     3112  *SEMINAR 1 BROADCAST 11*                               12 NOV 1974     12 NOV 1974
            PRECEDES      3121                                         370             370
C     3122  *SEMINAR 1 BROADCAST 12*                               19 NOV 1974     19 NOV 1974
            PRECEDES      3131                                         375             375
C     3132  *SEMINAR 1 BROADCAST 13*                               26 NOV 1974     26 NOV 1974
            PRECEDES      3141                                         379             379
C     3142  *SEMINAR 1 BROADCAST 14*                                3 DEC 1974      3 DEC 1974
            PRECEDES      3151                                         384             384
C     3152  *SEMINAR 1 BROADCAST 15*                               10 DEC 1974     10 DEC 1974
            PRECEDES      3161                                         389             389
C     3162  *SEMINAR 1 BROADCAST 16*                               17 DEC 1974     17 DEC 1974
            PRECEDES      3171                                         394             394
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C      3172  *SEMINAR 1 BROADCAST 17*              7 JAN 1975     7 JAN 1975
             PRECEDES       3181                     407            407

C      3182  *SEMINAR 1 BROADCAST 18*             14 JAN 1975    14 JAN 1975
             PRECEDES       3191                     412            412

C      3192  *SEMINAR 1 BROADCAST 19*             21 JAN 1975    21 JAN 1975
             PRECEDES       3201                     417            417

C      3202  *SEMINAR 1 BROADCAST 20*             28 JAN 1975    28 JAN 1975
             PRECEDES       3211                     4 2            422

C      3212  *SEMINAR 1 BROADCAST 21*              4 FEB 1975     4 FEB 1975
             PRECEDES       3221                     427            427

C      3222  *SEMINAR 1 BROADCAST 22*             11 FEB 1975    11 FEB 1975
             PRECEDES       3231                     432            432

C      3232  *SEMINAR 1 BROADCAST 23*             18 FEB 1975    18 FEB 1975
             PRECEDES       3241                     437            437

C      3242  *SEMINAR 1 BROADCAST 24*             25 FEB 1975    25 FEB 1975
             PRECEDES       3251                     442            442

C      3252  *SEMINAR 1 BROADCAST 25*              4 MAR 1975     4 MAR 1975
             PRECEDES       3261                     447            447

C      3262  *SEMINAR 1 BROADCAST 26*             11 MAR 1975    11 MAR 1975
             PRECEDES       3271                     452            452

C      3272  *SEMINAR 1 GRADES ASSIGNED*          25 MAR 1975    25 MAR 1975
             PRECEDES        500                     462            462

C      4102  *SEMINAR 2 BROADCAST 10*              7 NOV 1974     7 NOV 1974
             PRECEDES       4111                     367            367

C      4112  *SEMINAR 2 BROADCAST 11*             14 NOV 1974    14 NOV 1974
             PRECEDES       4121                     372            372

C      4122  *SEMINAR 2 BROADCAST 12*             28 NOV 1974    28 NOV 1974
             PRECEDES       4131                     381            381

C      4132  *SEMINAR 2 BROADCAST 13*              5 DEC 1974     5 DEC 1974
             PRECEDES       4141                     386            386

C      4142  *SEMINAR 2 BROADCAST 14*             12 DEC 1974    12 DEC 1974
             PRECEDES       4151                     391            391

C      4152  *SEMINAR 2 BROADCAST 15*             19 DEC 1974    19 DEC 1974
             PRECEDES       4161                     396            396

C      4162  *SEMINAR 2 BROADCAST 16*              2 JAN 1975     2 JAN 1975
             PRECEDES       4171                     404            404

C      4172  *SEMINAR 2 BROADCAST 17*              9 JAN 1975     9 JAN 1975
             PRECEDES       4181                     409            409

C      4182  *SEMINAR 2 BROADCAST 18*             16 JAN 1975    16 JAN 1975
             PRECEDES       4191                     414            414

C      4192  *SEMINAR 2 BROADCAST 19*             23 JAN 1975    23 JAN 1975
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                PRECEDES      4201                                   419             419

   C     4202   *SEMINAR 2 BROADCAST 20*                      30 JAN 1975     30 JAN 1975
                PRECEDES      4211                                   424             424

   C     4212   *SEMINAR 2 BROADCAST 21*                       6 FEB 1975      6 FEB 1975
                PRECEDES      4221                                   429             429

   C     4222   *SEMINAR 2 BROADCAST 22*                      13 FEB 1975     13 FEB 1975
                PRECEDES      4231                                   434             434

   C     4232   *SEMINAR 2 BROADCAST 23*                      20 FEB 1975     20 FEB 1975
                PRECEDES      4241                                   439             439

   C     4242   *SEMINAR 2 BROADCAST 24*                      27 FEB 1975     27 FEB 1975
                PRECEDES      4251                                   444             444

   C     4252   *SEMINAR 2 BROADCAST 25*                       6 MAR 1975      6 MAR 1975
                PRECEDES      4261                                   449             449

   C     4262   *SEMINAR 2 BROADCAST 26*                      13 MAR 1975     13 MAR 1975
                PRECEDES      4271                                   454             454

   C     4272   *SEMINAR 2 GRADES ASSIGNED*                   27 MAR 1975     27 MAR 1975
                PRECEDES       500                                   464             464

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ACTIVITY SCHEDULE

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ACTIVITY  DESCRIPTION                            DURA-   EARLY     LATE      EARLY     LATE      FREE  TOTAL
                                                 TION    START     START     FINISH    FINISH    FLOAT FLOAT
•••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••


     100  RDG PRG APPROACH DETERMINED            5      1JUN73    29JUN73    7JUN73    6JUL73      0    20
           PRECEDES     101                                1         21         5        25

     101  RDG PRG CCURSE OUTLINE COMPLETED       10     8JUN73     9JUL73   21JUN73   20JUL73      0    20
           PRECEDES     102       111       121    131     6         26        15        35
                        141       151       161    171

                        181       191       1101   1111

                       1121
          PRECEDES      102       111       121    131
                        141       151       161    171

                        181       191       1101   1111
     102  RDG PRG SET DESIGNED                   10     22JUN73   17AUG73    6JUL73   30AUG73      0    39
           PRECEDES     103                                16        55        25        64

     103  RDG PRG SET CONSTRUCTED                20      9JUL73   31AUG73    3AUG73   28SEP73     39    39
           PRECEDES     116                                26        65        45        84

     111  RDG PRG 1 LESSON OUTLINE COMPLETED     10     22JUN73   23JUL73    6JUL73    3AUG73      0    20
           PRECEDES     112                                16        36        25        45

     112  RDG PRG 1 INITIAL SCRIPT COMPLETED     8       9JUL73    6AUG73   18JUL73   15AUG73      0    20
           PRECEDES     113       114       115            26        46        33        53

     113  RDG PRG 1 GRAPHICS COMPLETED           30     19JUL73   16AUG73   29AUG73   27SEP73      0    20
           PRECEDES     115                                34        54        63        83

     114  RDG PRG 1 LOCATION FILM COMPLETED      30     19JUL73   16AUG73   29AUG73   27SEP73      0    20
           PRECEDES     115                                34        54        63        83

     115  RDG PRG 1 SHOOTING SCRIPT COMPLETED    1      30AUG73   28SEP73   30AUG73   28SEP73     20    20
           PRECEDES     116                                64        84        64        84

     117  RDG PRG 1 POST PROD EDIT COMPLETED     5       1OCT73   13MAY74    5OCT73   17MAY74      0   157
           PRECEDES     118                                85       242        89       246

     118  RDG PRG 1 FINAL REVISION COMPLETED     10      8OCT73   20MAY74   19OCT73    3JUN74    157   157
           PRECEDES     119                                90       247        99       256

     121  RDG PRG 2 LESSON OUTLINE COMPLETED     10     22JUN73   13AUG73    6JUL73   24AUG73      0    35
           PRECEDES     122                                16        51        25        60

     122  RDG PRG 2 INITIAL SCRIPT COMPLETED     8       9JUL73   27AUG73   18JUL73    6SEP73      0    35
           PRECEDES     123       124       125            26        61        33        68
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123  RDG PRG 2 GRAPHICS COMPLETED            30    19JUL73    7SEP73    29AUG73    18OCT73     0    35
       PRECEDES        125                          34         69         63         98

124  RDG PRG 2 LOCATION FILM COMPLETED       30    19JUL73    7SEP73    29AUG73    18OCT73     0    35
       PRECEDES        125                          34         69         63         98

125  RDG PRG 2 SHOOTING SCRIPT COMPLETED      1    30AUG73   19OCT73    30AUG73    19OCT73    35    35
       PRECEDES        126                          64         99         64         99

127  RDG PRG 2 POST PROD EDIT COMPLETED       5    22OCT73   20MAY74    26OCT73    24MAY74     0   147
       PRECEDES        128                         100        247        104        251

128  RDG PRG 2 FINAL REVISION COMPLETED      10    29OCT73   27MAY74     9NOV73    10JUN74   147   147
       PRECEDES        129                         105        252        114        261

131  RDG PRG 3 LESSON OUTLINE COMPLETED      10    22JUN73    4SEP73     6JUL73    17SEP73     0    50
       PRECEDES        132                          16         66         25         75

132  RDG PRG 3 INITIAL SCRIPT COMPLETED       8     9JUL73   18SEP73    18JUL73    27SEP73     0    50
       PRECEDES        133       134       135      26         76         33         83

133  RDG PRG 3 GRAPHICS COMPLETED            30    19JUL73   28SEP73    29AUG73     8NOV73     0    50
       PRECEDES        135                          34         84         63        113

134  RDG PRG 3 LOCATION FILM COMPLETED       30    19JUL73   28SEP73    29AUG73     8NOV73     0    50
       PRECEDES        135                          34         84         63        113

135  RDG PRG 3 SHOOTING SCRIPT COMPLETED      1    30AUG73    9NOV73    30AUG73     9NOV73    50    50
       PRECEDES        136                          64        114         64        114

137  RDG PRG 3 POST PROD EDIT COMPLETED       5    12NOV73   27MAY74    16NOV73     3JUN74     0   137
       PRECEDES        138                         115        252        119        256

138  RDG PRG 3 FINAL REVISION COMPLETED      10    19NOV73    4JUN74     3DEC73    17JUN74   137   137
       PRECEDES        139                         120        257        129        266

141  RDG PRG 4 LESSON OUTLINE COMPLETED      10    22JUN73   24SEP73     6JUL73     5OCT73     0    64
       PRECEDES        142                          16         80         25         89

142  RDG PRG 4 INITIAL SCRIPT COMPLETED       8     9JUL73    8OCT73    18JUL73    17OCT73     0    64
       PRECEDES        143       144       145      26         90         33         97

143  RDG PRG 4 GRAPHICS COMPLETED            30    19JUL73   18OCT73    29AUG73    29NOV73     0    64
       PRECEDES        145                          34         98         63        127

144  RDG PRG 4 LOCATION FILM COMPLETED       30    19JUL73   18OCT73    29AUG73    29NOV73     0    64
       PRECEDES        145                          34         98         63        127

145  RDG PRG 4 SHOOTING SCRIPT COMPLETED      1    30AUG73   30NOV73    30AUG73    30NOV73    64    64
       PRECEDES        146                          64        128         64        128

147  RDG PRG 4 POST PROD EDIT COMPLETED       5     3DEC73    4JUN74     7DEC73    10JUN74     0   128
       PRECEDES        148                         129        257        133        261

148  RDG PRG 4 FINAL REVISION COMPLETED      10    10DEC73   11JUN74    21DEC73    24JUN74   128   128
       PRECEDES        149                         134        262        143        271

151  RDG PRG 5 LESSON OUTLINE COMPLETED      10    22JUN73   25OCT73     6JUL73     7NOV73     0    87
       PRECEDES        152                          16        103         25        112

152  RDG PRG 5 INITIAL SCRIPT COMPLETED       8     9JUL73    8NOV73    18JUL73    19NOV73     0    87
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     PRECEDES      153      154      155          26        113        33         120

153  RDG PRG 5 GRAPHICS COMPLETED           30  19JUL73   20NOV73   29AUG73    3JAN74     0    87
       PRECEDES      155                          34        121        63        150
154  RDG PRG 5 LOCATION FILM COMPLETED      30  19JUL73   20NOV73   29AUG73    3JAN74     0    87
       PRECEDES      155                          34        121        63        150
155  RDG PRG 5 SHOOTING SCRIPT COMPLETED     1  30AUG73    4JAN74   30AUG73    4JAN74    87    87
       PRECEDES      156                          64        151        64        151
157  RDG PRG 5 POST PROD EDIT COMPLETED      5   7JAN74   11JUN74   11JAN74   17JUN74     0   110
       PRECEDES      158                         152        262       156        266
158  RDG PRG 5 FINAL REVISION COMPLETED     10  14JAN74   18JUN74   25JAN74    1JUL74   110   110
       PRECEDES      159                         157        267       166        276
161  RDG PRG 6 LESSON OUTLINE COMPLETED     10  22JUN73   15NOV73    6JUL73   29NOV73     0   102
       PRECEDES      162                          16        118        25        127
162  RDG PRG 6 INITIAL SCRIPT COMPLETED      8   9JUL73   30NOV73   18JUL73   11DEC73     0   102
       PRECEDES      163      164      165        26        128        33        135
163  RDG PRG 6 GRAPHICS COMPLETED           30  19JUL73   12DEC73   29AUG73   24JAN74     0   102
       PRECEDES      165                          34        136        63        165
164  RDG PRG 6 LOCATION FILM COMPLETED      30  19JUL73   12DEC73   29AUG73   24JAN74     0   102
       PRECEDES      165                          34        136        63        165
165  RDG PRG 6 SHOOTING SCRIPT COMPLETED     1  30AUG73   25JAN74   30AUG73   25JAN74   102   102
       PRECEDES      166                          64        166        64        166
167  RDG PRG 6 POST PROD EDIT COMPLETED      5  28JAN74   17JUN74    1FEB74   21JUN74     0    99
       PRECEDES      168                         167        266       171        270
168  RDG PRG 6 FINAL REVISION COMPLETED     10   4FEB74   24JUN74   15FEB74    8JUL74    99    99
       PRECEDES      169                         172        271       181        280
171  RDG PRG 7 LESSON OUTLINE COMPLETED     10  22JUN73    3DEC73    6JUL73   14DEC73     0   113
       PRECEDES      172                          16        129        25        138
172  RDG PRG 7 INITIAL SCRIPT COMPLETED      8   9JUL73   17DEC73   18JUL73   27DEC73     0   113
       PRECEDES      173      174      175        26        139        33        146
173  RDG PRG 7 GRAPHICS COMPLETED           30  19JUL73   28DEC73   29AUG73    8FEB74     0   113
       PRECEDES      175                          34        147        63        176
174  RDG PRG 7 LOCATION FILM COMPLETED      30  19JUL73   28DEC73   29AUG73    8FEB74     0   113
       PRECEDES      175                          34        147        63        176
175  RDG PRG 7 SHOOTING SCRIPT COMPLETED     1  30AUG73   11FEB74   30AUG73   11FEB74   113   113
       PRECEDES      176                          64        177        64        177
177  RDG PRG 7 POST PROD EDIT COMPLETED      5  12FEB74   24JUN74   18FEB74   28JUN74     0    93
       PRECEDES      178                         178        271       182        275
178  RDG PRG 7 FINAL REVISION COMPLETED     10  19FEB74    1JUL74    4MAR74   15JUL74    93    93
       PRECEDES      179                         183        276       192        285
181  RDG PRG 8 LESSON OUTLINE COMPLETED     10  22JUN73   31DEC73    6JUL73   14JAN74     0   132
       PRECEDES      182                          16        148        25        157
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182  RDG PRG 8 INITIAL SCRIPT COMPLETED            8     9JUL73     15JAN74    18JUL73    24JAN74     0   132
        PRECEDES      183      184      185               26         158         33        165
183  RDG PRG 8 GRAPHICS COMPLETED                 30    19JUL73     25JAN74    29AUG73     7MAR74     0   132
        PRECEDES      185                                  34         166         63        195
184  RDG PRG 8 LOCATION FILM COMPLETED            30    19JUL73     25JAN74    29AUG73     7MAR74     0   132
        PRECEDES      185                                  34         166         63        195
185  RDG PRG 8 SHOOTING SCRIPT COMPLETED           1    30AUG73      8MAR74    30AUG73     8MAR74   132   132
        PRECEDES      186                                  64         196         64        196
187  RDG PRG 8 POST PROD EDIT COMPLETED            5    11MAR74      1JUL74    15MAR74     8JUL74     0    79
        PRECEDES      188                                 197         276        201        280
188  RDG PRG 8 FINAL REVISION COMPLETED           10    18MAR74      9JUL74    29MAR74    22JUL74    79    79
        PRECEDES      189                                 202         281        211        290
191  RDG PRG 9 LESSON OUTLINE COMPLETED           10    22JUN73     22JAN74     6JUL73     4FEB74     0   147
        PRECEDES      192                                  16         163         25        172
192  RDG PRG 9 INITIAL SCRIPT COMPLETED            8     9JUL73      5FEB74    18JUL73    14FEB74     0   147
        PRECEDES      193      194      195               26         173         33        180
193  RDG PRG 9 GRAPHICS COMPLETED                 30    19JUL73     15FEB74    29AUG73    28MAR74     0   147
        PRECEDES      195                                  34         181         63        210
194  RDG PRG 9 LOCATION FILM COMPLETED            30    19JUL73     15FEB74    29AUG73    28MAR74     0   147
        PRECEDES      195                                  34         181         63        210
195  RDG PRG 9 SHOOTING SCRIPT COMPLETED           1    30AUG73     29MAR74    30AUG73    29MAR74   147   147
        PRECEDES      196                                  64         211         64        211
197  RDG PRG 9 POST PROD EDIT COMPLETED            5     1APR74      9JUL74     5APR74    15JUL74     0    69
        PRECEDES      198                                 212         281        216        285
198  RDG PRG 9 FINAL REVISION COMPLETED           10     8APR74     16JUL74    19APR74    29JUL74    69    69
        PRECEDES      199                                 217         286        226        295
200  CAREER ED APPROACH DETERMINED                 5     1JUN73      9JUL73     7JUN73    13JUL73     0    25
        PRECEDES      201                                   1          26          5         30
201  CAREER ED COURSE OUTLINE COMPLETED           10     8JUN73     16JUL73    21JUN73    27JUL73     0    25
        PRECEDES      202      211      221      231        6          31         15         40
                      241      251      261      271

                      281      291      2101     2111

                      2121
        PRECEDES      202      211      221      231
                      241      251      261      271

                      281      291      2101     2111
202  CAREER ED SET DESIGNED
        PRECEDES      203                         10    22JUN73     24AUG73     6JUL73     7SEP73     0    44
                                                           16          60         25         69
203  CAREER ED SET CONSTRUCTED
        PRECEDES      216                         20     9JUL73     10SEP73     3AUG73     5OCT73    44    44
                                                           26          70         45         89
211  CAR ED 1 LESSON OUTLINE COMPLETED            10    22JUN73     30JUL73     6JUL73    10AUG73     0    29
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      PRECEDES       212
                                                          16         41         25         50
  212  CAR ED 1 INITIAL SCRIPT COMPLETED            8   9JUL73    13AUG73    18JUL73    22AUG73     0    25
        PRECEDES       213       214       215              26         51         33         58
  213  CAR ED 1 GRAPHICS COMPLETED                 30   19JUL73    23AUG73    29AUG73    4OCT73      0    25
        PRECEDES       215                                  34         59         63         88
  214  CAR ED 1 LOCATION FILM COMPLETED            30   19JUL73    23AUG73    29AUG73    4OCT73      0    25
        PRECEDES       215                                  34         59         63         88
  215  CAR ED 1 SHOOTING SCRIPT COMPLETED           1   30AUG73    5OCT73     30AUG73    5OCT73     25    25
        PRECEDES       216                                  64         89         64         89
  217  CAR ED 1 POST PROD EDIT COMPLETED            5   8OCT73     15MAY74    12OCT73    21MAY74     0   154
        PRECEDES       218                                  90        244         94        248
  218  CAR ED 1 FINAL REVISION COMPLETED           10   15OCT73    22MAY74    26OCT73    5JUN74    154   154
        PRECEDES       219                                  95        249        104        258
  221  CAR ED 2 LESSON OUTLINE COMPLETED           10   22JUN73    20AUG73    6JUL73     31AUG73     0    40
        PRECEDES       222                                  16         56         25         65
  222  CAR ED 2 INITIAL SCRIPT COMPLETED            8   9JUL73     4SEP73     18JUL73    13SEP73     0    40
        PRECEDES       224       225                        26         66         33         73
  223  CAR ED 2 GRAPHICS COMPLETED                 30   1JUN73     14SEP73    13JUL73    25OCT73    33    73
        PRECEDES       225                                   1         74         30        103
  224  CAR ED 2 LOCATION FILM COMPLETED            30   19JUL73    14SEP73    29AUG73    25OCT73     0    40
        PRECEDES       225                                  34         74         63        103
  225  CAR ED 2 SHOOTING SCRIPT COMPLETED           1   30AUG73    26OCT73    30AUG73    26OCT73    40    40
        PRECEDES       226                                  64        104         64        104
  227  CAR ED 2 POST PROD EDIT COMPLETED            5   29OCT73    22MAY74    2NOV73     28MAY74     0   144
        PRECEDES       228                                 105        249        109        253
  228  CAR ED 2 FINAL REVISION COMPLETED           10   5NOV73     29MAY74    16NOV73    12JUN74   144   144
        PRECEDES       229                                 110        254        119        263
  231  CAR ED 3 LESSON OUTLINE COMPLETED           10   22JUN73    11SEP73    6JUL73     24SEP73     0    55
        PRECEDES       232                                  16         71         25         80
  232  CAR ED 3 INITIAL SCRIPT COMPLETED            8   9JUL73     25SEP73    18JUL73    4OCT73      0    55
        PRECEDES       233       234       235              26         81         33         88
  233  CAR ED 3 GRAPHICS COMPLETED                 30   19JUL73    5OCT73     29AUG73    15NOV73     0    55
        PRECEDES       235                                  34         89         63        118
  234  CAR ED 3 LOCATION FILM COMPLETED            30   19JUL73    5OCT73     29AUG73    15NOV73     0    55
        PRECEDES       235                                  34         89         63        118
  235  CAR ED 3 SHOOTING SCRIPT COMPLETED           1   30AUG73    16NOV73    30AUG73    16NOV73    55    55
        PRECEDES       236                                  64        119         64        119
  237  CAR ED 3 POST PROD EDIT COMPLETED            5   19NOV73    29MAY74    26NOV73    5JUN74      0   134
        PRECEDES       238                                 120        254        124        258
  238  CAR ED 3 FINAL REVISION COMPLETED           10   27NOV73    6JUN74     10DEC73    19JUN74   134   134
        PRECEDES       239                                 125        259        134        268
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241	CAR ED 4 LESSON OUTLINE COMPLETED PRECEDES 242	10	22JUN73 16	1OCT73 85	6JUL73 25	12OCT73 94	0	69
242	CAP ED 4 INITIAL SCRIPT COMPLETED PRECEDES 243 244 245	8	9JUL73 26	15OCT73 95	18JUL73 33	24OCT73 102	0	69
243	CAR ED 4 GRAPHICS COMPLETED PRECEDES 245	30	19JUL73 34	25OCT73 103	29AUG73 63	6DEC73 132	0	69
244	CAR ED 4 LOCATION FILM COMPLETED PRECEDES 245	30	19JUL73 34	25OCT73 103	29AUG73 63	6DEC73 132	0	69
245	CAR ED 4 SHOOTING SCRIPT COMPLETED PRECEDES 246	1	30AUG73 64	7DEC73 133	30AUG73 64	7DEC73 133	69	69
247	CAR ED 4 POST PROD EDIT COMPLETED PRECEDES 248	5	10DEC73 134	6JUN74 259	14DEC73 138	12JUN74 263	0	125
248	CAR ED 4 FINAL REVISION COMPLETED PRECEDES 249	10	17DEC73 139	13JUN74 264	31DEC73 148	26JUN74 273	125	125
251	CAR ED 5 LESSON OUTLINE COMPLETED PRECEDES 252	10	22JUN73 16	1NOV73 108	6JUL73 25	14NOV73 117	0	92
252	CAR ED 5 INITIAL SCRIPT COMPLETED PRECEDES 254 255	8	9JUL73 26	15NOV73 118	18JUL73 33	27NOV73 125	0	92
253	CAR ED 5 GRAPHICS COMPLETED PRECEDES 255	30	1JUN73 1	28NOV73 126	13JUL73 30	10JAN74 155	33	125
254	CAR ED 5 LOCATION FILM COMPLETED PRECEDES 255	30	19JUL73 34	28NOV73 126	29AUG73 63	10JAN74 155	0	92
255	CAR ED 5 SHOOTING SCRIPT COMPLETED PRECEDES 256	1	30AUG73 64	11JAN74 156	30AUG73 64	11JAN74 156	92	92
257	CAR ED 5 POST PROD EDIT COMPLETED PRECEDES 258	5	14JAN74 157	19JUN74 268	18JAN74 161	25JUN74 272	0	111
258	CAR ED 5 FINAL REVISION COMPLETED PRECEDES 259	10	21JAN74 162	26JUN74 273	1FEB74 171	10JUL74 282	111	111
261	CAR ED 6 LESSON OUTLINE COMPLETED PRECEDES 262	10	22JUN73 16	23NOV73 123	6JUL73 25	6DEC73 132	0	107
262	CAR ED 6 INITIAL SCRIPT COMPLETED PRECEDES 263 264 265	8	9JUL73 26	7DEC73 133	18JUL73 33	18DEC73 140	0	107
263	CAR ED 6 GRAPHICS COMPLETED PRECEDES 265	30	19JUL73 34	19DEC73 141	29AUG73 63	31JAN74 170	0	107
264	CAR ED 6 LOCATION FILM COMPLETED PRECEDES 265	30	19JUL73 34	19DEC73 141	29AUG73 63	31JAN74 170	0	107
265	CAR ED 6 SHOOTING SCRIPT COMPLETED PRECEDES 266	1	30AUG73 64	1FEB74 171	30AUG73 64	1FEB74 171	107	107
267	CAR ED 6 POST PROD EDIT COMPLETED PRECEDES 268	5	4FEB74 172	26JUN74 273	8FEB74 176	2JUL74 277	0	101

268	CAR ED 6 FINAL REVISION COMPLETED PRECEDES 269	10	11FEB74 177	3JUL74 278	22FEB74 186	17JUL74 287	101	101
271	CAR ED 7 LESSON OUTLINE COMPLETED PRECEDES 272	10	22JUN73 16	14DEC73 138	6JUL73 25	28DEC73 147	0	122
272	CAR ED 7 INITIAL SCRIPT COMPLETED PRECEDES 273 274 275	8	9JUL73 26	31DEC73 148	18JUL73 33	10JAN74 155	0	122
273	CAR ED 7 GRAPHICS COMPLETED PRECEDES 275	30	19JUL73 34	11JAN74 156	29AUG73 63	21FEB74 185	0	122
274	CAR ED 7 LOCATION FILM COMPLETED PRECEDES 275	30	19JUL73 34	11JAN74 156	29AUG73 63	21FEB74 185	0	122
275	CAR ED 7 SHOOTING SCRIPT COMPLETED PRECEDES 276	1	30AUG73 64	22FEB74 186	30AUG73 64	22FEB74 186	122	122
277	CAR ED 7 POST PROD EDIT COMPLETED PRECEDES 278	5	25FEB74 187	3JUL74 278	1MAR74 191	10JUL74 282	0	91
278	CAR ED 7 FINAL REVISION COMPLETED PRECEDES 279	10	4MAR74 192	11JUL74 283	15MAR74 201	24JUL74 292	91	91
281	CAR ED 8 LESSON OUTLINE COMPLETED PRECEDES 282	10	22JUN73 16	8JAN74 153	6JUL73 25	21JAN74 162	0	137
282	CAR ED 8 INITIAL SCRIPT COMPLETED PRECEDES 283 284 285	8	9JUL73 26	22JAN74 163	18JUL73 33	31JAN74 170	0	137
283	CAR ED 8 GRAPHICS COMPLETED PRECEDES 285	30	19JUL73 34	1FEB74 171	29AUG73 63	14MAR74 200	0	137
284	CAR ED 8 LOCATION FILM COMPLETED PRECEDES 285	30	19JUL73 34	1FEB74 171	29AUG73 63	14MAR74 200	0	137
285	CAR ED 8 SHOOTING SCRIPT COMPLETED PRECEDES 286	1	30AUG73 64	15MAR74 201	30AUG73 64	15MAR74 201	137	137
287	CAR ED 8 POST PROD EDIT COMPLETED PRECEDES 288	5	18MAR74 202	11JUL74 283	22MAR74 206	17JUL74 287	0	81
288	CAR ED 8 FINAL REVISION COMPLETED PRECEDES 289	10	25MAR74 207	18JUL74 288	5APR74 216	31JUL74 297	81	81
291	CAR ED 9 LESSON OUTLINE COMPLETED PRECEDES 292	10	22JUN73 16	29JAN74 168	6JUL73 25	11FEB74 177	0	152
292	CAR ED 9 INITIAL SCRIPT COMPLETED PRECEDES 293 294 295	8	9JUL73 26	12FEB74 178	18JUL73 33	21FEB74 185	0	152
293	CAR ED 9 GRAPHICS COMPLETED PRECEDES 295	30	19JUL73 34	22FEB74 186	29AUG73 63	4APR74 215	0	152
294	CAR ED 9 LOCATION FILM COMPLETED PRECEDES 295	30	19JUL73 34	22FEB74 186	29AUG73 63	4APR74 215	0	152
295	CAR ED 9 SHOOTING SCRIPT COMPLETED PRECEDES 296	1	30AUG73 64	5APR74 216	30AUG73 64	5APR74 216	152	152
297	CAR ED 9 POST PROD EDIT COMPLETED	5	8APR74	18JUL74	12APR74	24JUL74	0	71

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     PRECEDES      298                       217        288        221        292

298  CAR ED 9 FINAL REVISION COMPLETED    10   15APR74    25JUL74    26APR74     7AUG74     71     71
     PRECEDES      299                       222        293        231        302

300  SEMINAR 1 APPROACH DETERMINED         5    1JUN73    11FEB74     7JUN73    15FEB74      0    176
     PRECEDES      301                         1        177          5        181

301  SEM 1 COURSE & LESSONS OUTLINED     104    8JUN73    18FEB74     2NOV73    15JUL74      0    176
     PRECEDES      302      303      304   311     6        182        109        285

302  SEMINAR 1 SET DESIGNED               10    5NOV73    22JUL74    16NOV73     2AUG74      0    180
     PRECEDES      305                       110        290        119        299

303  SEM 1 ALL GRAPHICS COMPLETED         30    5NOV73    16JUL74    17DEC73    26AUG74      0    176
     PRECEDES      311                       110        286        139        315

304  SEM 1 ALL LOCATION FILM COMPLETED    30    5NOV73    16JUL74    17DEC73    26AUG74      0    176
     PRECEDES      311                       110        286        139        315

305  SEMINAR 1 SET CONSTRUCTED            20   19NOV73     5AUG74    17DEC73    30AUG74    180    180
     PRECEDES      312                       120        300        139        319

311  SEM 1 SHOOTING SCRIPT 1 COMPLETED     4   18DEC73    27AUG74    21DEC73    30AUG74    176    176
     PRECEDES      312                       140        316        143        319

321  SEM 1 SHOOTING SCRIPT 2 COMPLETED     4    3SEP74     4SEP74     6SEP74     9SEP74      1      1
     PRECEDES      322                       320        321        323        324

331  SEM 1 SHOOTING SCRIPT 3 COMPLETED     4   10SEP74    11SEP74    13SEP74    16SEP74      1      1
     PRECEDES      332                       325        326        328        329

341  SEM 1 SHOOTING SCRIPT 4 COMPLETED     4   17SEP74    18SEP74    20SEP74    23SEP74      1      1
     PRECEDES      342                       330        331        333        334

351  SEM 1 SHOOTING SCRIPT 5 COMPLETED     4   24SEP74    25SEP74    27SEP74    30SEP74      1      1
     PRECEDES      352                       335        336        338        339

361  SEM 1 SHOOTING SCRIPT 6 COMPLETED     4    1OCT74     2OCT74     4OCT74     7OCT74      1      1
     PRECEDES      362                       340        341        343        344

371  SEM 1 SHOOTING SCRIPT 7 COMPLETED     4    8OCT74     9OCT74    11OCT74    14OCT74      1      1
     PRECEDES      372                       345        346        348        349

381  SEM 1 SHOOTING SCRIPT 8 COMPLETED     4   15OCT74    16OCT74    18OCT74    21OCT74      1      1
     PRECEDES      382                       350        351        353        354

391  SEM 1 SHOOTING SCRIPT 9 COMPLETED     4   22OCT74    23OCT74    25OCT74    28OCT74      1      1
     PRECEDES      392                       355        356        358        359

400  SEMINAR 2 APPROACH DETERMINED         5    1JUN73    13FEB74     7JUN73    19FEB74      0    178
     PRECEDES      401                         1        179          5        183

401  SEM 2 COURSE & LESSONS OUTLINED     104    8JUN73    20FEB74     2NOV73    17JUL74      0    178
     PRECEDES      402      403      404   411     6        184        109        287

402  SEMINAR 2 SET DESIGNED               10    5NOV73    24JUL74    16NOV73     6AUG74      0    182
     PRECEDES      405                       110        292        119        301

403  SEM 2  ALL GRAPHICS COMPLETED        30    5NOV73    18JUL74    17DEC73    28AUG74      0    178
     PRECEDES      411                       110        288        139        317
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 404  SEM 2 ALL LOCATION FILM COMPLETED          30     5NOV73     18JUL74    17DEC73     28AUG74      0    178
       PRECEDES      411                                  110        288        139         317

 405  SEMINAR 2 SET CONSTRUCTED                   20    19NOV73      7AUG74    17DEC73      4SEP74    182    182
       PRECEDES      412                                  120        302        139         321

 411  SEM 2 SHOOTING SCRIPT 1 COMPLETED            4    18DEC73     29AUG74    21DEC73      4SEP74    178    178
       PRECEDES      412                                  140        318        143         321

 421  SEM 2 SHOOTING SCRIPT 2 COMPLETED            4     5SEP74      6SEP74    10SEP74     11SEP74      1      1
       PRECEDES      422                                  322        323        325         326

 431  SEM 2 SHOOTING SCRIPT 3 COMPLETED            4    12SEP74     13SEP74    17SEP74     18SEP74      1      1
       PRECEDES      432                                  327        328        330         331

 441  SEM 2 SHOOTING SCRIPT 4 COMPLETED            4    19SEP74     20SEP74    24SEP74     25SEP74      1      1
       PRECEDES      442                                  332        333        335         336

 451  SEM 2 SHOOTING SCRIPT 5 COMPLETED            4    26SEP74     27SEP74     1OCT74      2OCT74      1      1
       PRECEDES      452                                  337        338        340         341

 461  SEM 2 SHOOTING SCRIPT 6 COMPLETED            4     3OCT74      4OCT74     8OCT74      9OCT74      1      1
       PRECEDES      462                                  342        343        345         346

 471  SEM 2 SHOOTING SCRIPT 7 COMPLETED            4    10OCT74     11OCT74    15OCT74     16OCT74      1      1
       PRECEDES      472                                  347        348        350         351

 481  SEM 2 SHOOTING SCRIPT 8 COMPLETED            4    17OCT74     18OCT74    22OCT74     23OCT74      1      1
       PRECEDES      482                                  352        353        355         356

 491  SEM 2 SHOOTING SCRIPT 9 COMPLETED            4    24OCT74     25OCT74    29OCT74     30OCT74      1      1
       PRECEDES      492                                  357        358        360         361

 510  FINAL REPORT COMPLETED                      30     1APR75     21JUL75    12MAY75     29AUG75     77     77
       PRECEDES      600                                  467        544        496         573

1101  RDG PRG 10 LESSON OUTLINE COMPLETED         10    22JUN73     12FEB74     6JUL73     25FEB74      0    162
       PRECEDES      1102                                  16        178         25         187

1102  RDG PRG 10 INITIAL SCRIPT COMPLETED          8     9JUL73     26FEB74    18JUL73      7MAR74      0    162
       PRECEDES      1103      1104      1105              26        188         33         195

1103  RDG PRG 10 GRAPHICS COMPLETED               30    19JUL73      8MAR74    29AUG73     18APR74      0    162
       PRECEDES      1105                                  34        196         63         225

1104  RDG PRG 10 LOCATION FILM COMPLETED          30    19JUL73      8MAR74    29AUG73     18APR74      0    162
       PRECEDES      1105                                  34        196         63         225

1105  RDG PRG 10 SHOOTING SCRIPT COMPLETED         1    30AUG73     19APR74    30AUG73     19APR74    162    162
       PRECEDES      1106                                  64        226         64         226

1107  RDG PRG 10 POST PROD EDIT COMPLETED          5    22APR74     16JUL74    26APR74     22JUL74      0     59
       PRECEDES      1108                                 227        286        231         290

1108  RDG PRG 10 FINAL REVISION COMPLETED         10    29APR74     23JUL74    10MAY74      5AUG74     59     59
       PRECEDES      1109                                 232        291        241         300

1111  RDG PRG 11 LESSON OUTLINE COMPLETED         10    22JUN73      5MAR74     6JUL73     18MAR74      0    17[illegible]
       PRECEDES      1112                                  16        193         25         202
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1112  RDG PRG 11 INITIAL SCRIPT COMPLETED      8     9JUL73    19MAR74    18JUL73    28MAR74     0    177
       PRECEDES      1113      1114      1115          26        203         33        210
1113  RDG PRG 11 GRAPHICS COMPLETED           30    19JUL73    29MAR74    29AUG73     9MAY74     0    177
       PRECEDES      1115                              34        211         63        240
1114  RDG PRG 11 LOCATION FILM COMPLETED      30    19JUL73    29MAR74    29AUG73     9MAY74     0    177
       PRECEDES      1115                              34        211         63        240
1115  RDG PRG 11 SHOOTING SCRIPT COMPLETED     1    30AUG73    10MAY74    30AUG73    10MAY74   177    177
       PRECEDES      1116                              64        241         64        241
1117  RDG PRG 11 POST PROD EDIT COMPLETED      5    13MAY74    23JUL74    17MAY74    29JUL74     0     49
       PRECEDES      1118                             242        291        246        295
1118  RDG PRG 11 FINAL REVISION COMPLETED     10    20MAY74    30JUL74     3JUN74    12AUG74    49     49
       PRECEDES      1119                             247        296        256        305
1121  RDG PRG 12 LESSON OUTLINE COMPLETED     10    22JUN73    25MAR74     6JUL73     5APR74     0    191
       PRECEDES      1122                              16        207         25        216
1122  RDG PRG 12 INITIAL SCRIPT COMPLETED      8     9JUL73     8APR74    18JUL73    17APR74     0    191
       PRECEDES      1123      1124      1125          26        217         33        224
1123  RDG PRG 12 GRAPHICS COMPLETED           30    19JUL73    18APR74    29AUG73    29MAY74     0    191
       PRECEDES      1125                              34        225         63        254
1124  RDG PRG 12 LOCATION FILM COMPLETED      30    19JUL73    18APR74    29AUG73    29MAY74     0    191
       PRECEDES      1125                              34        225         63        254
1125  RDG PRG 12 SHOOTING SCRIPT COMPLETED     1    30AUG73    31MAY74    30AUG73    31MAY74   191    191
       PRECEDES      1126                              64        255         64        255
1127  RDG PRG 12 POST PROD EDIT COMPLETED      5     3JUN74    30JUL74     7JUN74     5AUG74     0     40
       PRECEDES      1128                             256        296        260        300
1128  RDG PRG 12 FINAL REVISION COMPLETED     10    10JUN74     6AUG74    21JUN74    19AUG74    40     40
       PRECEDES      1129                             261        301        270        310
1131  RDG PRG MATERIALS GRADED                 8    20AUG74    20AUG74    29AUG74    29AUG74     0      0
       PRECEDES      1132                             311        311        318        318
2101  CAR ED 10 LESSON OUTLINE COMPLETED      10    22JUN73    19FEB74     6JUL73     4MAR74     0    167
       PRECEDES      2102                              16        183         25        192
2102  CAR ED 10 INITIAL SCRIPT COMPLETED       8     9JUL73     5MAR74    18JUL73    14MAR74     0    167
       PRECEDES      2103      2104      2105          26        193         33        200
2103  CAR ED 10 GRAPHICS COMPLETED            30    19JUL73    15MAR74    29AUG73    25APR74     0    167
       PRECEDES      2105                              34        201         63        230
2104  CAR ED 10 LOCATION FILM COMPLETED       30    19JUL73    15MAR74    29AUG73    25APR74     0    167
       PRECEDES      2105                              34        201         63        230
2105  CAR ED 10 SHOOTING SCRIPT COMPLETED      1    30AUG73    26APR74    30AUG73    26APR74   167    167
       PRECEDES      2106                              64        231         64        231
2107  CAR ED 10 POST PROD EDIT COMPLETED       5    29APR74    25JUL74     3MAY74    31JUL74     0     61
       PRECEDES      2108                             232        293        236        297
2108  CAR ED 10 FINAL REVISION COMPLETED      10     6MAY74     1AUG74    17MAY74    14AUG74    61     61
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          PRECEDES     2109                                   237       298       246       307
           2111  CAR ED 11 LESSON OUTLINE COMPLETED     10   22JUN73   12MAR74    6JUL73    25MAR74      0    182
                  PRECEDES     2112                              16       198        25       207
           2112  CAR ED 11 INITIAL SCRIPT COMPLETED      8    9JUL73   26MAR74   18JUL73     4APR74      0    182
                  PRECEDES     2113     2114    2115             26       208        33       215
           2113  CAR ED 11 GRAPHICS COMPLETED           30   19JUL73    5APR74   29AUG73    16MAY74      0    182
                  PRECEDES     2115                              34       216        63       245
           2114  CAR ED 11 LOCATION FILM COMPLETED      30   19JUL73    5APR74   29AUG73    16MAY74      0    182
                  PRECEDES     2115                              34       216        63       245
           2115  CAR ED 11 SHOOTING SCRIPT COMPLETED     1   30AUG73   17MAY74   30AUG73    17MAY74    182    182
                  PRECEDES     2116                              64       246        64       246
           2117  CAR ED 11 PUST PROD EDIT COMPLETED      5   20MAY74    1AUG74   24MAY74     7AUG74      0     51
                  PRECEDES     2118                             247       298       251       302
           2118  CAR ED 11 FINAL REVISION COMPLETED     10   27MAY74    8AUG74   10JUN74    21AUG74     51     51
                  PRECEDES     2119                             252       303       261       312
           2121  CAR ED 12 LESSON OUTLINE COMPLETED     10   22JUN73    1APR74    6JUL73    12APR74      0    196
                  PRECEDES     2122                              16       212        25       221
           2122  CAR ED 12 INITIAL SCRIPT COMPLETED      8    9JUL73   15APR74   18JUL73    24APR74      0    196
                  PRECEDES     2123     2124    2125             26       222        33       229
           2123  CAR ED 12 GRAPHICS COMPLETED           30   19JUL73   25APR74   29AUG73     6JUN74      0    196
                  PRECEDES     2125                              34       230        63       259
           2124  CAR ED 12 LOCATION FILM COMPLETED      30   19JUL73   25APR74   29AUG73     6JUN74      0    196
                  PRECEDES     2125                              34       230        63       259
           2125  CAR ED 12 SHOOTING SCRIPT COMPLETED     1   30AUG73    7JUN74   30AUG73     7JUN74    196    196
                  PRECEDES     2126                              64       260        64       260
           2127  CAR ED 12 POST PROD EDIT COMPLETED      5   10JUN74    8AUG74   14JUN74    14AUG74      0     42
                  PRECEDES     2128                             261       303       265       307
           2128  CAR ED 12 FINAL REVISION COMPLETED     10   17JUN74   15AUG74   28JUN74    28AUG74     42     42
                  PRECEDES     2129                             266       308       275       317
   C       2131  CAREER ED MATERIALS GRADED              9   29AUG74   29AUG74   11SEP74    11SEP74      0      0
                  PRECEDES     2132                             318       318       326       326
           3101  SEM 1 SHOOTING SCRIPT 10 COMPLETED      4   29OCT74   30OCT74    1NOV74     4NOV74      1      1
                  PRECEDES     3102                             360       361       363       364
           3111  SEM 1 SHOOTING SCRIPT 11 COMPLETED      4    5NOV74    6NOV74    8NOV74    11NOV74      1      1
                  PRECEDES     3112                             365       366       368       369
           3121  SEM 1 SHOOTING SCRIPT 12 COMPLETED      4   12NOV74   13NOV74   15NOV74    18NOV74      1      1
                  PRECEDES     3122                             370       371       373       374
   C       3131  SEM 1 SHOOTING SCRIPT 13 COMPLETED      4   19NOV74   19NOV74   25NOV74    25NOV74      0      0
                  PRECEDES     3132                             375       375       378       378
           3141  SEM 1 SHOOTING SCRIPT 14 COMPLETED      4   26NOV74   27NOV74   29NOV74     2DEC74      1      1
                  PRECEDES     3142                             379       380       382       383
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       3151  SEM 1 SHOOTING SCRIPT 15 COMPLETED      4     3DEC74     4DEC74     6DEC74     9DEC74     1     1
              PRECEDES     3152                              384        385        387        388

       3161  SEM 1 SHOOTING SCRIPT 16 COMPLETED      4    10DEC74    11DEC74    13DEC74    16DEC74     1     1
              PRECEDES     3162                              389        390        392        393

       3171  SEM 1 SHOOTING SCRIPT 17 COMPLETED      4    17DEC74    31DEC74    20DEC74     6JAN75     9     9
              PRECEDES     3172                              394        403        397        406

       3181  SEM 1 SHOOTING SCRIPT 18 COMPLETED      4     7JAN75     8JAN75    10JAN75    13JAN75     1     1
              PRECEDES     3182                              407        408        410        411

       3191  SEM 1 SHOOTING SCRIPT 19 COMPLETED      4    14JAN75    15JAN75    17JAN75    20JAN75     1     1
              PRECEDES     3192                              412        413        415        416

       3201  SEM 1 SHOOTING SCRIPT 20 COMPLETED      4    21JAN75    22JAN75    24JAN75    27JAN75     1     1
              PRECEDES     3202                              417        418        420        421

       3211  SEM 1 SHOOTING SCRIPT 21 COMPLETED      4    28JAN75    29JAN75    31JAN75     3FEB75     1     1
              PRECEDES     3212                              422        423        425        426

       3221  SEM 1 SHOOTING SCRIPT 22 COMPLETED      4     4FEB75     5FEB75     7FEB75    10FEB75     1     1
              PRECEDES     3222                              427        428        430        431

       3231  SEM 1 SHOOTING SCRIPT 23 COMPLETED      4    11FEB75    12FEB75    14FEB75    17FEB75     1     1
              PRECEDES     3232                              432        433        435        436

       3241  SEM 1 SHOOTING SCRIPT 24 COMPLETED      4    18FEB75    19FEB75    21FEB75    24FEB75     1     1
              PRECEDES     3242                              437        438        440        441

       3251  SEM 1 SHOOTING SCRIPT 25 COMPLETED      4    25FEB75    26FEB75    28FEB75     3MAR75     1     1
              PRECEDES     3252                              442        443        445        446

       3261  SEM 1 SHOOTING SCRIPT 26 COMPLETED      4     4MAR75     5MAR75     7MAR75    10MAR75     1     1
              PRECEDES     3262                              447        448        450        451

  C    3271  SEM 1 MATERIALS GRADED                 10    11MAR75    11MAR75    24MAR75    24MAR75     0     0
              PRECEDES     3272                              452        452        461        461

       4101  SEM 2 SHOOTING SCRIPT 10 COMPLETED      4    31OCT74     1NOV74     5NOV74     6NOV74     1     1
              PRECEDES     4102                              362        363        365        366

       4111  SEM 2 SHOOTING SCRIPT 11 COMPLETED      4     7NOV74     8NOV74    12NOV74    13NOV74     1     1
              PRECEDES     4112                              367        368        370        371

       4121  SEM 2 SHOOTING SCRIPT 12 COMPLETED      4    14NOV74    22NOV74    19NOV74    27NOV74     5     5
              PRECEDES     4122                              372        377        375        380

       4131  SEM 2 SHOOTING SCRIPT 13 COMPLETED      4    28NOV74    29NOV74     3DEC74     4DEC74     1     1
              PRECEDES     4132                              381        382        384        385

       4141  SEM 2 SHOOTING SCRIPT 14 COMPLETED      4     5DEC74     6DEC74    10DEC74    11DEC74     1     1
              PRECEDES     4142                              386        387        389        390

       4151  SEM 2 SHOOTING SCRIPT 15 COMPLETED      4    12DEC74    13DEC74    17DEC74    18DEC74     1     1
              PRECEDES     4152                              391        392        394        395

       4161  SEM 2 SHOOTING SCRIPT 16 COMPLETED      4    19DEC74    26DEC74    24DEC74    31DEC74     4     4
              PRECEDES     4162                              396        400        399        403
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     4181  SEM 2 SHOOTING SCRIPT 18 COMPLETED        4     9JAN75    10JAN75    14JAN75    15JAN75    1    1
            PRECEDES      4182                              409        410        412        413
     4191  SEM 2 SHOOTING SCRIPT 19 COMPLETED        4    16JAN75    17JAN75    21JAN75    22JAN75    1    1
            PRECEDES      4192                              414        415        417        418
     4201  SEM 2 SHOOTING SCRIPT 20 COMPLETED        4    23JAN75    24JAN75    28JAN75    29JAN75    1    1
            PRECEDES      4202                              419        420        422        423
     4211  SEM 2 SHOOTING SCRIPT 21 COMPLETED        4    30JAN75    31JAN75     4FEB75     5FEB75    1    1
            PRECEDES      4212                              424        425        427        428
     4221  SEM 2 SHOOTING SCRIPT 22 COMPLETED        4     6FEB75     7FEB75    11FEB75    12FEB75    1    1
            PRECEDES      4222                              429        430        432        433
     4231  SEM 2 SHOOTING SCRIPT 23 COMPLETED        4    13FEB75    14FEB75    18FEB75    19FEB75    1    1
            PRECEDES      4232                              434        435        437        438
     4241  SEM 2 SHOOTING SCRIPT 24 COMPLETED        4    20FEB75    21FEB75    25FEB75    26FEB75    1    1
            PRECEDES      4242                              439        440        442        443
     4251  SEM 2 SHOOTING SCRIPT 25 COMPLETED        4    27FEB75    28FEB75     4MAR75     5MAR75    1    1
            PRECEDES      4252                              444        445        447        448
     4261  SEM 2 SHOOTING SCRIPT 26 COMPLETED        4     6MAR75     7MAR75    11MAR75    12MAR75    1    1
            PRECEDES      4262                              449        450        452        453
 C   4271  SEM 2 MATERIALS GRADED                   10    13MAR75    13MAR75    26MAR75    26MAR75    0    0
            PRECEDES      4272                              454        454        463        463
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B. RESOURCE ALLOCATIONS: Fiscal Resources required by this mission appear in the Budget Section. The staff responsible for the mission were as follows:

Producer-Director - Peter Gillette (100%)

Cinematographer - Floyd Kron (100%)

Artist - Gwyndolyn McGowan (100%)

TV Engineer - Jesse Holbrook (100%)

Production Crew - Part time staff

Assoc. Prod.-Direc. - Richard Falknor (100%)

Audio Technician - David Haydon (100%)

In addition the following personnel were provided by the University:

Director of UK Media Services:
Paul Owen (20%)
TV/Films Production Manager:
Roger Koonce (80%)
Producer/Director:
Paul LeVeque (100%)
Art Director:
John Quinn (80%)
Staff Artist:
Mike Sleadd (80%)
Chief Engineer:
Tom Holleron (60%)
TV Engineer:
Louis Strauss (60%)
TV Engineer:
Mike Weikel (20%)
Cinematographer:
1 FTE (60%)
Film Editor:
1 FTE (40%)

The University of Kentucky Television facilities were used for production and broadcasting.

The UKTV Center was equipped with the highest professional quality television and film equipment. Major TV equipment items serving its 40' x 44' studio were:

1. 40,000 lighting system
2. Two RCA TK44 color cameras
3. TelePromptor, telePromptor crawl and rear screen projectors

4. RCA TK-27 color film camera with 2 RCA TP-66 projectors, TP-7 35mm slide projectors
5. Three Ampex 1200 Quad Videotape recorders with full color and editing capability
6. A switching system with full special effects and chroma-key
7. A video image modulation unit for simulated computer special effects
8. Multiple input audio board with Ampex recorders, turntables and cartridge machines
9. Closed circuit distribution system to Lexington campus and availability to Community Colleges state-wide.

Film equipment included:

1. Two Arriflex 16mm cameras with full complement of lenses and double system capability
2. One Mitchell 16mm camera
3. One Auricon camera with magnetic or optical sound and field recording capability
4. One canon scoopic, one Bolex and three Bell and Howell cameras
5. One Nagra recorder and Siemens projector
6. Large picture head Moviola
7. Wireless microphone system
8. Steenbeck flatbed editing bench

Art-Graphic-Photo-Scenery

1. Two Kensol large-bed hot presses
2. One Stat King II
3. One Visual Graphics Photo Typositor
4. One Laci Luci visualizer with photographic plate
5. Two 35mm cameras and copy stands
6. One adequately equipped dark room
7. One well-equipped design and scene shop

F. SUMMARY OF EVALUATION ACTIVITIES

Formative Evaluation: of television products centered around the experimental studies with university students prior to broadcast of the courses: 1) to determine whether using the four-channel response-accumulation device is intrusive in the learning process; 2) to measure the effectiveness of one or more career education and reading videos. Additional in-progress assistance, supplied by the Evaluation Component, consisted in the specification of 1) current career education programs in the area useful in planning on-site filming and 2) alternate procedures for program development.

More specifically, the Evaluation Component:

*5.7.1. supplied a description of current career education programs in the AESP counties, for use in planning on-site filming and a list of the educational and cable television systems in the area for use in contingency planning;

5.7.2. met with the director of the Television Component, the producers and outside consultants to discuss alternate production and evaluation procedures;

5.7.5. produced appropriate scales for site coordinators, participating teachers, subject-matter experts and agents comparable to the teacher-viewers to rate such broadcast features of the pretaped and live programs as the quality of the reception, production, and viewing area and record such technical data as down-time equipment problems;

5.7.6. had the scales checked by production and technical experts and measurement experts, reviewed by the Instrument Review Committee and revised and submitted to ARC for approval;

5.7.8. administered two experiments with university students prior to broadcast of the courses, one to record audience reaction to the video and another to measure the effectiveness of the video alone and in combination with other learning activities in enabling viewers to perform pre-determined behavioral objectives;

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*Numbers refer to specific activities outlined in the evaluation mission description and thus are non-consecutive.

5.7.10. explained such RESA evaluation tasks in relation to television as filling in quality of viewing area, reception and equipment down-time forms.

Summative Evaluation: measured satisfaction with television products and the effectiveness of the products developed by the Television Component in terms of educational benefits and cost.

More specifically, the Evaluation Component:

5.7.11. had the students rate broadcast and production qualities of each pretaped program and live seminar, and periodically had them rate the quality of these activities in comparison to similar instructional methods;

5.7.14. assessed the attitudes of the participating subjects toward televised videotapes and live, interactive seminars;

5.7.15. developed administration, distribution, scoring and analysis procedures for instruments used to evaluate television transmission and production;

5.7.16. performed and analyzed the data from two field studies during the administration of each of the two summer courses to assess the effectiveness of the video alone, in combination with the four-channel audio and the ancillary activities in enabling the students to achieve pre-determined behavioral objectives;

5.7.18. documented the progress of the Television Component in meeting component objectives;

5.7.20. documented the problems and reactions of RESA personnel to television via satellite;

5.7.21. evaluated the adequacy of satellite transmission of tapes and programs;

5.7.22. wrote six technical reports which discuss the effectiveness of the procedures and products of the Television Component;

5.7.23. analyzed the cost of television products in relation to the cost of comparable products.

Specific evaluation findings related to television may be found in the following Technical Reports:

TR#5	Performance of AESP Transmission/ Reception Equipment
TR#6	User Ratings of Instructional Activities: Diagnostic and Prescriptive Reading Instruction
TR#7	User Ratings of Instructional Activities: Career Edcuation in the Elementary Grades (Summer, 1974)
TR#10	Cost Estimation Model for Selected Course Formats By Way of Alternative Delivery Modes
TR#11	Summative Evaluation of Career Education in the Secondary School Course (Fall, 1974)
TR#12	Summative Evaluation of DPRI K-6 Course (Spring, 1975)

G. RECOMMENDATIONS

1. Problems of time and money are inherent in any project of the size and scope of AESP. In retrospect, the problem of time was most crucial. Usually there is a margin for error. The mistakes made by AESP were few, and fortunately not costly. In this project, the non-existant margin for error was compensated for by the superior efforts of the personnel assigned to the various tasks. Obviously no future project should be required to deliver similar products on similar timelines with similar resources.

2. Future projects should, wherever possible, require user-oriented developed practices. The continuous AESP involvement with Appalachian users was one of the more significant factors in the success of the project.

3. Confusion resulting from fragments of a single responsibility being distributed between Denver, Washington, the AESP Engineering component and the Television component in Lexington might better be handled in the future by combining the engineering and satellite scheduling responsibilities in one office located at the RCC.

MISSION 6.0 INFORMATION SYSTEMS

A. **OBJECTIVE:** To implement a combination of computer-based and manual systems for retrieving and delivering information and instructional materials in the area of elementary reading and career education to a maximum of 1200 teachers who were enrolled in coursework developed in Mission 1.0 through 4.0.

B. **OUTCOMES:**

1. A system for voice, hard copy, and facsimile telecommunication between the RESAs and the RCC was operational by June 1, 1974.
2. A diagnostic/prescriptive information retrieval system in career education for use by 600 teachers was operational by June 1, 1974.
3. A diagnostic/prescriptive information retrieval system in elementary reading for use by 600 teachers was operational by June 1, 1974.
4. Instructional materials depositories in reading and career education were available at each RESA by June 1, 1974.

C. **MISSION DESCRIPTION:** The mission of the Information System component consisted of four relatively distinct activities. These were:

1. The implementation of voice and hard copy communication systems;
2. location, implementation and operation of a diagnostic/prescriptive system in career education;
3. location, implementation and operation of a diagnostic/prescriptive system in reading; and
4. advising RESAs on the development of a resource library for each of the RESAs.

Following is a descriptive narrative and overview of activities in each of these areas. Additional supporting documents are contained in Appendices, as indicated.

1. Career Education Diagnostic/Prescriptive System

a. ERIC, AIM/ARM

Computer searches were made available to the participating teachers. These were searches run against the computer tape data bases ERICTAPES and the AIM/ARM Index tapes.

ERICTAPES were obtained from the Educational Resources Information Center. There were two tape files; a tape index in machine readable format of the Research In Education publication and one for Current Index to Journals in Education; RIE and CIJE respectively.

AIM (abstracts of Instructional Materials) ARM (abstracts of Research Materials) were obtained from the Center for Vocational and Technical Information. Most of these items were also contained in the ERICTAPES, but not all of them were. This data base was also obtained because of its relevance to Career Education.

Originally, the intention was to have the RESAs submit requests for searches against the files through the TTY/VHF interface. Search requests orginating at the ancillary sites would be relayed to the RCC through the main RESA. The computer searches would then be run at the University of Kentucky Computing Center and the results sent back to the site where the request was initiated. The RESA would handle distribution to the requestor.

The search results, or "hits", would indicate relevant materials for the teachers use. The output was dependent upon the diagnosis and selection of search descriptors made by the teacher.

An AIM/ARM microfiche data base was established at each RESA site. These microfiche data bases provided access to the "hits" cited in the search results. Microfiche readers were also provided to insure access to the materials by the teachers. Because of the volume of the ERIC data base, a similar arrangement was not possible for these materials. However, many colleges and universities have these data bases as part of their libraries. Several of the states in which the participating teachers resided provide a free service to teachers within their boundaries. These teachers may request copies of microfiche documents from their state departments of education and the microfiche will be sent to them. If no other access was available to the teacher, the RCC would provide a copy of the microfiche needed by the teacher.

A user's manual was provided at the site to instruct the teachers on how to utilize this system. Request forms were also provided for their convenience. During the course of the project, the users' manual was reviewed and revised to facilitate use of this system by the participating teachers.

This system tended to be handicapped somewhat by the lack of requestor/searcher* interface. For maximum benefit from this type of search system, a dialog between these persons is essential. Some benefits were realized but not to the greatest extent. Establishment and maintenance of this interface was not possible due to the geographical size of the area served.

b. CBRU (Computer-Based Resource Units)

In order to provide a diagnostic/prescriptive information retrieval system in career education for use by teachers enrolled in the career education courses, the CBRU System was used. The data base for the system is units of study that are stored on either computer tape or disks. The units have been written for children on various topics. Groups of teachers, working cooperatively, formulated all of the major objectives they felt that a teacher might select for a class preparing to study a designated topic. They listed books, films, filmstrips and other materials which they found to be potential resources. Subsequently, they wrote as many statements of content about the topic as they thought were relevant.

Taking into account the many different characteristics which children may exhibit, they devised activities which they felt were appropriate. These materials, activities, content items, and evaluation devices were then coded to each objective to which they were related. These strategies and resources were then coded again by learner variables, and stored for computer access.

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*This term refers to the person actually submitting the searches to the computing center for processing.

The computer can print out suggestions to a teacher for appropriate activities, materials, content and evaluative devices for the whole class, and individual lists of suggestions which match the objectives selected and the profile for each child.

The Computer Based Resource Unit (CBRU) has one unit that is used by all teachers in grades 7-12. One printout is provided that contains all relevant information plus a unit outline. Items contained in CBRU are readily identified by producer. A sample of the teacher's printout for a CBRU search is included in Appendix 7 of this report.

Teachers seem to have found this system to be the most helpful. Even though all of the materials suggested for use were not readily available to them, the activities and evaluation methods suggested in the printouts provided sufficient information to the teachers so that they were able to substitute other materials in the place of those suggested. The suggested activities and evaluation methods could still be used.

During the summer months of the course the teachers had no pupils with which they could work. Using this system in the abstract did not seem to appeal to them. During the fall months when there were actual students to provide input parameters asked for by the request forms, the usage of the system increased.

2. Reading Diagnostic/Prescriptive System

a. Texas Computer Retrieval System (CRS)

The Texas CRS was used to retrieve information in reading materials according to diagnostic data provided by participating teachers. This system was used in the following fashion: Teachers completed a request form for information on instructional materials. The form enables the teacher to specify educational level, content area, cognitive-perceptual area, concepts and skills, and format requested. This information is teletyped to Texas, where it is translated and fed into the CDC 6600 Computer. The computer program has the capacity to use the Boolean operators, AND, OR and NOT, to narrow or broaden the search. The computer prints out all relevant documents from the 10,000 item data base by listing a microfilm number, shelf number, and title of program. These are then teletyped back to the RCC.

The Texas CRS was used in the project in the sequence described above. Requests were teletyped from the main RESA to the RCC for transmission to Texas. Responses to the request were in the form of numbers which corresponded to a file of abstracts located at each main RESA. Relevant abstracts and/or the actual materials (if located in the RESA libraries) were then distributed to the teacher who generated the original request.

Although the AESP did get some use from the system, during the fall the Special Education Instructional Materials network was disassembled and reorganized. Under the reorganization the AESP was no longer able to obtain this service from the University of Texas Regional Special Education Instructional Materials Center as it had through the summer. The system had to be dropped.

b. Prescriptive Materials Retrieval System (Select-Ed)

The PMRS is a manual retrieval system that enables the user to retrieve from approximately 4,000 instructional materials. In using this system, these five steps are followed:

a. Define the problem and translate the terms into those contained in the PMRS thesaurus.
b. Locate descriptor (termitrex) cards, by number from the descriptor file.
c. Overlap the descriptor cards on light box.

d. Copy the numbers of each lighted hole that is projected through the descriptor cards.
e. Locate abstracts of the materials from the numerically sequenced descriptive analysis sheet reference books.

The system permits searches for instructional materials by specific content, format, grade level, mental age, input-output variables, process, and major area. An example of a PMRS search and the descriptive analysis sheets retrieved is included in Appendices, along with a graphic description of the steps required to perform the search.

Funding was insufficient to permit the purchase of Select-Ed for the RESAs. In order to allow access to this system, however, the RCC did the actual search for the teachers. The teacher was expected to perform step (a) mentioned above. The request was then sent to the RCC by TWX and there the request was put through the system. Results were then sent back to the teacher.

A programmed audio cassette instructed an individual teacher in the use of the system in 20-30 minutes. The audio program was made available at each RESA for teacher use as a supplement to the reading course instruction.

To provide a PMRS unit for each site, or at least a rotating unit for the main RESA, was the original intent. However, budget considerations changed the plans. Even though the system is a manual one and some of the materials a bit dated, the system would have provided immediate feedback to the user. It would have helped the user to better understand the "needs" of the system in prescribing materials based on the descriptive terms provided. A familiarization with an information retrieval system would have resulted.

When the teacher submitted a request to be processed through the PMRS, a result of no hits would sometimes be the outcome. This was produced by one descriptor, in most cases. Had the feedback been immediate, the teacher could have known which of the descriptors chosen had produced the negative or null result. A change could have been made quickly. A result days old could not do the same. The real value of this system being on site would have been the experience rather than the actual results, although those could have been of value as well.

c. Kentucky Special Education Materials Information System

When the Texas CRS was no longer available for use by the AESP, a substitute system had to be found quickly in order to provide needed support to both the teachers who were to be taking the spring reading course and to continue support to those teachers who had already taken the summer reading course. The Mid-East Area Learning Resource Center (MEALRC) at the University of Kentucky provided the needed assistance. The MEALRC had recently developed an information storage and retrieval system and needed a pilot test of the retrieval capabilities of the system. By special agreement, the MEALRC made available to the AESP their system, hereafter called the KY System.

The KY System retrieved selected documents based upon diagnostic input descriptors, much the same as the Texas CRS had. There were at that time more than 8,000 items in the data base. Most of these items could be found throughout the area served by the AESP because they were elements of the Instructional Materials Centers' collections. The IMCs had been well scattered throughout the AESP's service area. The items were, in some cases, already available in the RESAs; in others, they were located nearby. Therefore the KY System was well suited to the needs of the AESP and AESP could provide a needed service to the MEALRC by helping them to run a pilot test of the retrieval system.

Users' Manuals were prepared for the participating teachers and the system was put into operation during the spring reading course. Because it was a newly-introduced system, all participating teachers received a copy of the users' manual so that they would be aware of the system and how to use it.

3. Materials Depository Development

Materials Selection

Appropriate resource materials, such as the Westinghouse Learning Library and the AIM and ARM idexes from the ERIC Clearinghouse on Vocational Education were placed in each main RESA in order to provide supplementary resources for the teachers.

The original intent of the project was to establish large materials collections at each main RESA. Following a site visit, NIE made the decision that this plan was not feasible and reduced the funding for this objective. As a result small depositories of materials collections were provided at each site through RESA budgets. The role of the Information System component was then to develop a list of materials suggested for purchase by the sites. The site coordinators took inventory of what was already available at the sites and supplemented existing materials with other reading and career education instructional materials.

The RCC Information Systems extended an offer to the sites to help sort, arrange, catalog and/or provide services that would help facilitate use of the instructional materials by the participants. About one half of the sites requested and received this service.

4. Communications System

a. Procedures Manual

The Evaluation Component coordinated the development of a procedures manual for use at the site. The Information Systems component developed the portion of the manual which dealt with the systems, their forms, and the use of the forms and the systems. It was, for the most part, a collection of the users' manuals for each RESA site.

Feedback was considered to be an integral part of the manual. The feedback received from the field or the RESA sites would direct changes in the manual. A procedure for initiating these changes from the field locations was even made a part of the manual. Very little feedback was in fact received from the RESAs. What did come in was acted upon.

The procedures manual followed the playscript model utilized by the UKRSEIMC and specified the following: subject, functions affected, forms required, definitions, general description, responsible party for each action, and action(s) to be taken, in sequence. A sample of the model is shown in Appendices. This was to provide a standard set of procedures that were amenable to revision and updating, and were to be used in all aspects of the project requiring action by personnel from more than one agency.

b. Client Registry

An operational computerized client registry system was adopted for use by the AESP. The system was obtained from the University of Kentucky Regional Special Education Instructional Materials Center (UKRSEIMC), which had developed the system for their use. Minor modifications were made to adapt the system to the AESP usage. In addition to providing the programs for use, the UKRSEIMC also made available any technical assistance needed to cope with system problems.

Each prospective participant/teacher completed a UK registration form. This form was submitted to the RCC through the teacher's local RESA. Upon arrival here the registration form was checked for completeness. If possible, omitted information was supplied for the applicant. In other cases the local RESA was contacted to obtain the information or the form was returned to the RESA site for completion.

Working from the registration form, necessary information was transferred from the registration form to a client registry coding form. This information was then keypunched and run through the Client Registry System in a batch mode. Listings were obtained by RESA site and by the entire region. These listings were arranged in alphabetical order. During the coding operation each participant was also assigned a unique idenfification number.

The 13 digit identification number encoded a number of facts about the participant. In some cases all the information normally intended to be encoded was not available. Where the information was not essential, i.e. participant's occupation, an "Unspecified" code was entered or the space was left blank. The fact that some information was not supplied handicapped some of the intended uses of the system. The system could provide percentage figures based upon information supplied by codes such as the Occupation. When this was not available, the figures were of little use. Despite requests for this data, not all RESAs provided it. Without 100% cooperation, the supplied data from the RESAs were of little use.

UKRSEIMC used the Client Registry system for the following:

1. To document who was receiving services from UKRSEIMC.

2. To prepare computer-generated mailing labels for dissiminating information, as needed. (The system permits the generation of selected mailing labels based upon any characteristic identified by the client number. These lists are prepared in ZIP code order in order to take advantage of bulk mailing rates.)

3. To document all client contacts. For project accountability, each interaction with every client was recorded according to the client number.

4. The system permitted a number of statistical analyses.

Although AESP did not use the system for all of those purposes, the system nevertheless served AESP well. Benefits were obtained from the system in different ways. The AESP used the Client Registry system in the following ways:

1. To verify registration. All registration forms were processed first by the Information Systems component. Not all of the applicants intended to receive graduate credit from UK. Those that did were forwarded on for further

processing by the UK Registrar's Office. Listings obtained from the system could verify that the application had been processed and facilitate checking on the part of the Registrar or the participant -- or the RCC.

2. All participants who submitted a completed registration form were entered into the Client Registry system. Listings were then provided for use by both the RESAs and the RCC to verify a teacher's registration with the project.

3. To verify eligibility for service(s). In conjunction with that, the listings were consulted to verify that the requestor was indeed a participant in the AESP program and therefore eligible for services.

4. To generate class lists. For each course, class lists were generated by RESA site. This proved to be an effective reference tool for several components of AESP.

5. To produce attendance sheets. For the convenience of the Site Coordinators, multiple copies of the site's class list were produced. This provided the Site Coordinator with an alphabetized class list and a convenient means for taking roll and reporting absences.

6. To produce "change" forms. In addition to being attendance sheets, the additional copies of the class list were used to report changes of name, address, or participation (drop/adds).

7. To produce mailing lists.

8. To generate portions of the client ID card. The label affixed to the back of the participant's ID card provided a handy reference for the participant for his ID number and the address of his local RESA for the submission of information requests.

LEVEL 4
OCCUPATION: — —

A-3631

APPLICATION FOR UNDERGRADUATE ADMISSION
TO THE UNIVERSITY OF KENTUCKY

(Withholding information or giving false information will make you ineligible for admission.)

THE APPLICATION CARD IS A THREE PART FORM. PRESS HARD. PRINT WITH BALL POINT PEN OR TYPE.

1. Social Security Number ..../...................../...
(No Applications are accepted without S. S. No.)

2. ☐ 1 Male ☐ 2 Female

3. ☐ 1 Married ☐ 2 Single

Name (Print) ....
Last First Middle or Maiden

4. ☐ 1 Resident ☐ 2 Non-resident of Ky.

5. Date of Birth ...., 19........ 6. Applying for GI Benefits? Yes ☐ No ☐ Period of Enlistment .... to ....
YEAR YEAR

7. Applying for: 19..........(circle one) Summer 1. Intersession 2. 8 Week 3. 6 Week Fall Spring Summer Short Course ....

8. Home Address ....
Number and Street City County State Zip Code

9. Present Address ....
Number and Street City County State Zip Code

10. Parent(s) or Guardian(s) Name .... Their Address ....

11. High School ....
Name City County State Zip Code

12. Date of High School Graduation............................ Check for application for: 13. Financial aid ......14. Housing ..... Citizenship if not U.S. .....

(USE CODE SHEET FOR PROPER INFORMATION AS ANSWERS TO FOLLOWING QUESTIONS) 15. Desired major ....
16. Which College do you wish to enter .... 17. What is your entrance code (how are you applying).......... 18. Ethnic Background ....

19. Date you took or will take the ACT .... 20. Results sent to UK ________ ☐ Yes ☐ No 21. Parent(s) attend UK? Mother ☐ Father ☐ Home Phone No.

IF YOU HAVE ATTENDED ANY COLLEGES, NIGHT SCHOOLS OR PROFESSIONAL SCHOOLS, INCLUDING THE UNIVERSITY OF KENTUCKY, YOU MUST LIST THEM BELOW WITH THE BEGINNING AND ENDING DATES OF YOUR ATTENDANCE.

Name of School and Address	Beginning Month/year	Ended or will end Month/year	Degrees and dates Conferred or to be conferred

Date .... Signature ....

Application Form

5

Information Systems Client Number

Position Number: 01 02 03 04 05 06 07 08 09 10 11 12 13

Sample Client Number: 0 1 - 9 0 1 3 7 - 0 9 9 - 0 9 - 9

Positions	Purpose
01 - 02	RESA site serving client
03 - 07	Complete Serial Number
03	Used in conjunction with the last digit of the entire number (Position 13) to indicate status of the client.
04 - 07	Short Serial Number - used on all information request forms to identify client; only these four digits need be sent by the client. This is not the same as the four-digits student used by by evaluation on its forms.
08 - 10	Client County/State
08 - 09	Client county of residence; participating counties listed alphabetically and numbered in sequence.
10	Client state of residence; participating assigned numbers in same manner as counties.
11 - 12	Occupation
11	Level at which the client is involved, i.e. primary, intermediate, junior high, etc.
12	Position of the client, i.e. teacher, principal, administrator, etc.
13	Status indicated by two digit code composed of Positions 3 and 13; indicates if client is currently active in a course, has complted a course, etc.

Clients will be asked to provide their numbers when completing Information Systems request forms. The only portion of the 13 digit number that they need remember is the Short Serial Number (Positions 04 - 07). Dashes separate the various groupings within the full 13 digit number; the Short Serial Number appears in the second grouping. The entire number will be printed on the back of the Client Identification Card to be provided to each participant.

c. ATS-3 Communications

This aspect of the communications system was defined by the Federation of Rocky Mountain States. Through an interaction with that agency, their radio communications procedures manual was modified for use by the AESP. All procedures and protocol were defined in the manual.

This component handled almost all of the radio operations for the Appalachian region for the AESP. The RCC was also designated as the network control center for the Appalachian region during the periods that the AESP was scheduled to use ATS-3 for communications.

Daily contacts with the main RESA sites per ATS-3 were to be the means of keeping the RCC and the RESAs advised of each others activities and problems. Initially, most of the RESAs still preferred to use the normal telephone lines. Later in the project more use was made of the ATS-3 VHF link for these purposes.

The radio link was intended to be the means of receiving information requests from the sites. Dependent upon the volume of the response to a request it was also the means for sending the response back to the site. Most RESAs fell into the habit of utilizing the postage-paid mailers provided by the Evaluation component to send their requests into the RCC. The mailers had been intended for returning Evaluation materials only.

During the live seminars the radio link was the means whereby the participants at the sites relayed their questions to the on-camera talent. In most cases these were sent to the RCC by TTY paper tape and printed on the RCC's TTY. This provided printed copy that could easily be taped to a card and handed to the on-camera person for an on-the-air response to the question. Occasionally questions were dictated over the VHF link and written on cards for submission to the on-camera person.

Trouble reports from the sites were relayed to the AESP Engineering component for handling. All equipment maintenance was handled by them.

Only the operation of the equipment was handled by this component.

Refer to Satellite Technology Demonstration Broadcast and Engineering Training Manual for Health Education Telecommunications (HET) Network Site Operators in the appendices for further explanation of VHF procedures and protocol. This manual insured compliance with NASA and FCC regulations. A demonstrated knowledge (demonstrated by acceptable performance on a test developed by the FRMS for use with the manual) was a requisite for all VHF operators. Compliance with this condition enabled VHF operators to operate the VHF equipment without the normally-required licensing by the FCC.

5. Annotated Bibliography of Developed Documents

Bowling, Betty. AESP Brochure
A descriptive recruiting brochure designed to be interesting and informative to prospective AESP teacher-students.

Bowling, Betty et al. AESP Display Booth
Originally constructed for presentation at the Kentucky Education Association convention in the Spring of 1974, the booth saw other uses at other meetings and conventions, where it served as a base for presenting the slide/tape presentation, handing out brochures and information packets, and answering questions about the AESP and its mission.

Bowling, Betty, L. Eberwein, R. Manion. AESP Information Packets: Reading, Career Education
Follow-up packets to provide more in-depth information concerning the proposed courses described briefly in the brochure. Component directors for the subject areas provided input for the development of the packets. These were distributed directly to interested teachers as well as being distributed through the RESAs as part of their teacher recruitment program.

Bowling, Betty. AESP One-Page Summary
Known commonly as the "one-page summary," this document was a concise description of the AESP, its missions, and its goals. It proved to be a valuable informational hand-out for many purposes.

Bowling, Betty. AESP Slide/Tape Presentation
An informational presentation for use by ARC, the RCC, and the RESAs in their areas. Content was included from as many RESA sites as possible. Sites submitted slides and copy for inclusion and reviewed and approved the finished product. Multiple copies were made and distributed to the sites and the ARC.

Bowling, Betty, P. Gillette et al. AESP Slide/Tape Presentation -- Video Tape Format
To provide a more conveniently-packaged format for the RESAs, the AESP slide/tape presentation was put on videotape cassette. The Television Production Component of the AESP assisted greatly in this effort. Multiple copies of the videotape format were made and distributed for use.

Bowling, Betty, C. Ausness. AESP Technical Report #2: AESP - Overview
Originally prepared as a speech for presentation at a national meeting, the speech was easily revised and presented in the technical report format. This document provides one of the most comprehensive and informative descriptions of AESP. Due to necessary program changes during the course of AESP, some of the statements made in this document are inaccurate. However, it tends to make the document more valuable from a historical viewpoint.

Pasden, Timothy A., B. Bowling. Course Content Searches: Career Education I, Career Education II
Based upon individual program content, searches were run against the tape files of AIM/ARM and ERIC to provide the teachers with a reference tool. These searches provided listings of resource materials that the teacher-students could use as a supplemental source of program information. Copies of the listings were distributed to the RESA sites and included in the Reference materials collection at the classroom sites.

Bowling, Betty, L. Eberwein, R. Manion. Course Outlines: Reading, Career Education
Working with the subject area component directors, documents were prepared to provide interested teachers with an overview of the proposed courses. These were distributed through the RESAs and included in the information packets as well as in the Procedures Manual.

Pasden, Timothy A., B. Bowling, M. Clarkson, A. Martinson, R. Wetter. Procedures Manual (Information Systems Section)
This section of the total Procedures Manual was developed as a joint effort by the entire Information Systems component. R. Wetter of the Evaluation Component provided assistance with regard to forms design. Various parts included:

-- Computer-Based Resource Unit Users' Manual:

Forms provided by the service agency were modified for use by AESP. In addition to the forms modification, the instructions for completing the forms were also modified to make the systems as uncomplicated as possible. Not all CBRU material was applicable to AESP, so the catalog of available units was modified to reflect the AESP area of emphasis.

Revisions were made to the manual as needed during the course of the project. These revisions were based upon the comments of the teacher-students and the site coordinators. Revisions were distributed to all sites for inclusion in the original manuals.

-- ERIC, AIM/ARM (QUERY) Users' Manual:

This manual attempted to provide an uncomplicated instruction in the use of a complicated system. The same system (QUERY - modified) was used to access the ERICTAPE files (Current Index to Journals in Education (CIJE) and Resources in Education (RIE)) as well as the AIM (Abstracts of Instructional Materials) and the ARM (Abstracts of Research Materials). The ERICTAPE files were used for the Reading requests and both the ERICTAPE files and the AIM/ARM files could be used for Career Education requests. (The AIM/ARM files were better suited to teacher-student needs.)

Efforts were made to simplify the instructions and necessary procedures for this system during the course of the project, but seem to have met with little success, based upon usage of the system by the teacher-students.

-- Kentucky Special Education Materials Information System (KY System) Users' Manual*

This system was introduced to the teacher-students of the AESP late in the project (during the Spring, 1975, Reading Course). It was a modification of a systems developed by the Mid-East Area Learning Resource Center at the University of Kentucky and the AESP was granted permission to use this system as a field test of the system. Instructions provided by the MEALRC, as well as the forms, were modified for use by the AESP clientele. The list of descriptor terms was reduced to those items pertaining to reading, since this system replaced the then-defunct Texas Computer Retrieval System (CRS), which was intended to provide information relevant to reading.

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*Not included in the Procedures Manual; distributed on individal basis.

-- Prescriptive Materials Retrieval System (PMRS or "Select-Ed") Users' Manual:

Instructions for the use of this system could be very brief and uncomplicated since the majority of the effort involved took place at the RCC. This is a manual system, originally intended to be used on-site. The teacher-students merely recorded the search descriptor terms and sent in the forms to the RCC for processing.

-- Texas Computer Retrieval System (CRS) Users' Manual:

With only minor modification to it, the users' manual of the University of Texas Regional Special Education Instructional Materials Center (UTRSEIMC or, more briefly IMC) was used. Copies sent by the IMC were modified and distributed to the RESA sites for inclusion in the on-site reference collections of materials. The manual included both printed instructions as well as a cassette tape with audio instructions.

Bowling, Betty, B. Lovely et al. TRACKER
This document is the monthly newsletter disseminated to all AESP personnel, teacher-students, and other interested parties. Its function is informational and developmental. All recipients are intended to be kept informed concerning the AESP and developmental information aimed specifically at the teacher-student population is also included. Material for publication in the newsletter was encouraged to be submitted by any of its recipients.

Martinson, Alice, M. Clarkson et al. Yellow Pages of the Working World
Planned and developed at the RCC, this document was the work of people across the Appalachian area. The document was organized at the RCC from materials submitted by request, teacher-students and site coordinators at the field sites. Information on local industries/businesses concerning their size, number of employees, functions, tours for students, and contact persons were collected in each area. This information was arranged in standard format and submitted to the RCC. Here it was organized and

distributed to the other RESA locations so that a cross-pollination of information across the region resulted. Information became available on local industries/businesses, as well as those in other states. Career information on other jobs became available to the teacher-students which could easily be disseminated to their classroom students. A working tool was developed for the classroom teacher, a tool which she could herself develop, modify and utilize.

AESP Personnel. "KUDOS" File
This is not a "developed document" per se, but should be included. All AESP personnel were requested to submit any AESP-related items that they discovered for inclusion in this file. Items were to include clippings from newspapers/magazines, letters from constituents/clientele, locally-developed PR materials, etc.

6. Outline of Working Relationships with Other Project Staff and External Agencies.

CAREER EDUCATION

Interaction with the Career Education component involved some brainstorming/discussion sessions. These helped to determine the direction to be taken for research needed for each program's content. In addition to locating the needed information, the sources could sometimes also be used as a supportive/required text for the courses. A materials list grew out of the research. Some of these materials were ordered for evaluation/inspection and use with the course.

Prior to the actual presentation of the courses, in conjunction with the Career Education component coordinator, course outlines were prepared for distribution to the RESAs for recruiting purposes. A follow-up information packet was also prepared to assist the RESAs.

Information Systems also provided some assistance to the Career Education component in the preparation of the ancillary materials for the courses. This mainly consisted of collation and stapling, organizing, and packaging of the printed materials. The AIM/ARM microfiche were ordered in quantity and then broken down into units for distribution to the various RESA sites.

To provide background readings for the students, there were computer searches run for each of the program topics. The topics of the program provided the keywords for the searches. In this manner searches were prepared that provided additional reading for the teachers. These printouts of the readings could be referenced by the participants whenever they wanted additional information to reinforce/expand on the program presentation.

During live seminars Information Systems personnel operated the VHF radio. This provided the interactive link to the receiving sites. Questions were received from the sites, screened (to eliminate duplication), and sent to the studio floor for a response by the on-camera persons. If questions were not answered during the course of the seminar, then the responses were prepared and sent to the sites during the VHF broadcast periods. This information and other data that the component deemed important enough for immediate transmission by hard copy were sent to the sites per the VHF/TTY VHF interface.

ENGINEERING

The Engineering component of the AESP had the responsibility of maintenance for the satellite communication hardware used. The Information Systems component did relay reports of equipment problems/malfunctions to the Engineering personnel. The daily contact with the sites by the ATS-3 link provided up to the minute reporting on their problems.

As with the Career Education component, information relaying was also done for Engineering. Messages were sent both ways over the network, providing both parties with necessary data.

On days when a live seminar was scheduled the radio operations included "Truth Site" polling. Selected sites were designated by NASA as "Truth Sites". Reports from these sites advised NASA as to the accuracy of their pointing of the satellite to cover the Appalachian area. These reports had to be received and relayed to NASA immediately upon receipt of the first signal from ATS-6 so that corrections, if necessary could be made before the program actually began.

Some minor assistance was rendered to Engineering in training site monitors, and once to the Veterans Administration site in fine tuning their receiving antenna.

EVALUATION

With Evaluation there were also some brainstorming/ discussion sessions. These were for various purposes: assistance in determining formative evaluation objectives, design of forms to be used with various information systems so that Evaluation could obtain statistical information, and assistance in the design of questionnaires to obtain data on participant reaction to the information systems used.

Since Evaluation did the majority of the Procedures Manual, Information Systems assisted them, by preparing the Information Systems section of this manual.

Minor aid was given on some of the technical data concerning radio operations and reports on equipment during the preparation of various technical reports. Through the radio link, information/message transfer to/from the sites was also provided for Evaluation.

FOUR-CHANNEL

During an equipment design session with the supplier manufacturer, Information Systems personnel represented the interests of the Four-channel component and the Evaluation component.

MANAGEMENT

During the early stages of the project this component was involved in public relations activities in conjunction with Management and also prepared the project newletter TRACKER.

In general there were some of the same brainstorming/discussion sessions that occured with other components. Some information gathering/retrieval service was provided to the Management component, although of a different nature than that provided to the program content components. PERT charts were made up at the request of the Management component and information concerning course enrollment and participant registration was provided.

READING

Working relationships with the Reading component were essentially the same as with the Career Education component.

TELEVISION

Working relations with the Television component were more indirect than with the other components. Operation of the radio equipment during the live seminars was the primary reason for interaction between the two components.

RESAs

Relay of information/messages to various personnel within the RCC was the major portion of the working relationship here. Information services were provided as needed by the participants. Suggestions for revisions in users' manuals were asked for and acted upon whenever possible when received. Assistance was provided upon request for problems arising with the information systems.

In the early phase of the project recruiting information was provided to the RESAs. Feedback from the RESAs was incorporated into the recruiting materials and the AESP slide/tape show.

The RESAs were also asked to provide input to the "KUDOS" File and the project newsletter.

Some RESAs requested and received assistance in setting up their reference areas at the program receiving sites. Information Systems personnel visited the sites and helped to unpack and arrange the materials on the shelf space provided at the site.

EXTERNAL AGENCIES

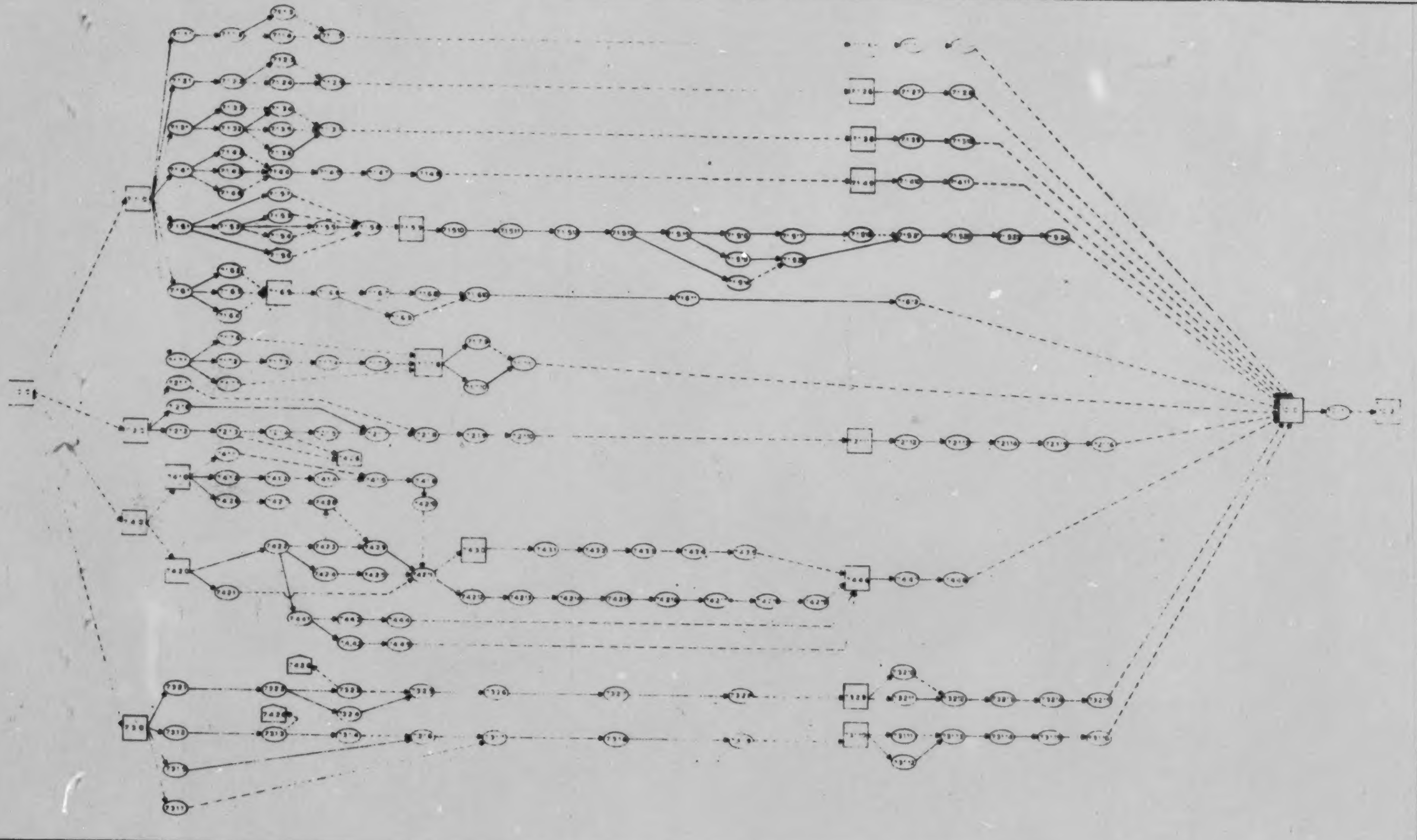
In order to prepare an information booth for the Kentucky Education Association convention, Information Systems personnel worked with the UK COLLEGE OF EDUCATION, the UK INFORMATION SERVICES, and FAIRCHILD INDUSTRIES.

Other on-campus agencies at the University of Kentucky providing assistance were: the UK COLLEGE OF EDUCATION LIBRARY, which made their materials available on special loan basis to project personnel; the UK COLLEGE OF LIBRARY SCIENCE, which provided technical assistance in designing the intended cataloging system; the MARGARET I. KING LIBRARY, whose offices of the Director, Acquisitions, Archives and Reference were ready to help whenever possible; the UK COMPUTING CENTER, whose facilities provided the means for running some of the information systems here and whose personnel helped to untangle some of the complexities and mysteries of the programs of the systems used; the UK MID-EAST LEARNING RESOURCE CENTER (formerly the UKRSEIMC), whose working system for the client registry and whose playscript model were utilized for the AESP; and the A. B. CHANDLER MEDICAL CENTER LIBRARY, whose Reference personnel made available the use of on-line data bases.

Off-campus agencies were the NEW YORK STATE COLLEGE AT BUFFALO RESEARCH & DEVELOPMENT COMPLEX, who provided the CBRU services; and the UNIVERSITY OF TEXAS (at Austin) REGIONAL SPECIAL EDUCATION MATERIALS CENTER, who made available the Texas CRS for AESP use.

D. TIME LINES

The Time Lines for the Information Systems Component appear on the following pages. These time lines were designed to be planning tools for the developmental phase of the project. They accurately reflect the milestones and start and finish dates of the component. As a result of changes in funding levels the emphasis on some of the events changed.



APPALACHIAN APPLIED TECHNOLOGY SATELLITE PROJECT

UNIVERSITY OF KENTUCKY

SUMMARY NETWORK FOR MISSION 60 – INFORMATION SYSTEM DEVELOPMENT

START 1 JUNE 1973
FINISH 31 AUG 1975
PROJECT DIRECTOR LARIMORE
NETWORK DEVELOPER BLACKHURST/PASDEN

FIG 7

1 JUNE 1973

TABLE 7.0

SCHEDULE FOR MISSION 6.0 INFORMATION SYSTEM DEVELOPMENT

Note: Events 7410, 7430, and 7446 are unfeasible with the current schedule. The activity times are currently being revised to develop a completely feasible schedule.

```
*****************************************************************
*  S C H E D U L E     F O R     P R O J E C T    'ATSF-TV '  *
*****************************************************************


PROJECT DURATION IS   572 WORK DAYS,  WORK WEEK IS 5 DAYS
WORK IS SCHEDULED TO START ON THE MORNING OF  1 JUN 1973
AND TO BE COMPLETED ON THE AFTERNOON OF 28 AUG 1975.

THE PROJECT 'ATSF-TV ' NETWORK HAS
 159 ACTIVITIES OF WHICH  159 APPEAR ON THIS REPORT OR SCHEDULE
  21 MILESTONE EVENTS OF WHICH   21  APPEAR ON THIS REPORT OR SCHEDULE

THE FOLLOWING USER-ASSIGNED CONSTRAINTS HAVE BEEN USED IN SCHEDULING.

    EVENT       102            *SUBMIT FINAL REPORT*                 IS TO OCCUR  ON  DAY   31 AUG 1975
    EVENT       100            *START FINAL REPORT*                  IS TO OCCUR  ON  DAY    1 JUN 1975
    EVENT      7446            *START CIRC IMPLEMENTATION*           IS TO OCCUR  ON  DAY    1 JUN 1974
    EVENT     73110            *START TXS IMPLEMENTATION*            IS TO OCCUR  ON  DAY    1 JUN 1974
    EVENT      7329            *START PMRS IMPLEMENTATION*           IS TO OCCUR  ON  DAY    1 JUN 1974
    EVENT      7430            *MATERIALS RCD FOR PROCESSING*        IS TO OCCUR  ON  DAY    1 JUN 1974
    EVENT     72111            *START CBRU IMPLEMENTATION*           IS TO OCCUR  ON  DAY    1 MAR 1974
    EVENT      7178            *START  PR  IMPLEMENTATION*           IS TO OCCUR  ON  DAY    1 JUN 1974
    EVENT      7165            *START NWSL IMPLEMENTATION*           IS TO OCCUR  ON  DAY   15 SEP 1973
    EVENT      7159            *START CLRG IMPLEMENTATION*           IS TO OCCUR  ON  DAY    1 SEP 1973
    EVENT      7149            *START PROM IMPLEMENTATION*           IS TO OCCUR  ON  DAY    8 FEB 1974
    EVENT      7138            *START TWX  IMPLEMENTATION*           IS TO OCCUR  ON  DAY    1 JUN 1974
    EVENT      7126            *START FCOM IMPLEMENTATION*           IS TO OCCUR  ON  DAY    1 JUN 1974
    EVENT      7116            *START VCOM IMPLEMENTATION*           IS TO OCCUR  ON  DAY    1 JUN 1974
    EVENT      7420            *START MATERIALS CATALOGING EFFORT*   IS TO OCCUR  ON  DAY    1 JUN 1974
    EVENT      7410            *RECEIVE MATERIALS LISTS*             IS TO OCCUR  ON  DAY   15 AUG 1973
    EVENT       740            *START MATERIALS COLLECTION*          IS TO OCCUR  ON  DAY    1 OCT 1973
    EVENT       730            *START READING PMRS SYSTEM DEVEL*     IS TO OCCUR  ON  DAY    1 JUL 1973
    EVENT       720            *START CAREER EDUC SYSTEM DEVEL*      IS TO OCCUR  ON  DAY    1 JUL 1973
    EVENT       710            *START COMMUNICATION SYSTEM DEVEL*    IS TO OCCUR  ON  DAY    1 JUL 1973
    EVENT       700            *START INFORMATION SYSTEMS*           IS TO OCCUR  ON  DAY    1 JUN 1973

ACTIVITIES ARE SCHEDULED TO START ON THE MORNING OF THE SPECIFIED WORKDAY OR DATE
AND TO FINISH ON THE AFTERNOON OF THE SPECIFIED WORKDAY OR DATE.

EVENTS ARE SCHEDULED FOR THE MORNING AFTER THE LAST PRECEDING ACTIVITY FINISHES,
EXCEPT FOR EVENTS OCCURRING ON THE PROJECT COMPLETION DATE.

ACTIVITIES AND EVENTS ARE SORTED ACCORDING TO   NODE NUMBERS

'C' IN MARGIN DESIGNATES A CRITICAL ACTIVITY OR EVENT.


HOLIDAYS AND NON-WORKING DAYS FOR PROJECT 'ATSF-TV '

                4 JUL 1973
                3 SEP 1973
```

1 JAN 1974
30 MAY 1974
4 JUL 1974
2 SEP 1974
21 NOV 1974
25 DEC 1974
1 JAN 1975
30 MAY 1975
4 JUL 1975

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                         E V E N T   S C H E D U L E
                         ***************************

*******************************************************************************
     EVENT DESCRIPTION
                                                          EARLY TIME     LATE TIME
*******************************************************************************
 C       100  *START FINAL REPORT*
              PRECEDES      101                          29 MAY 1975    29 MAY 1975
                                                            509            509
 C       102  *SUBMIT FINAL REPORT*
              SINK EVENT                                 20 AUG 1975    20 AUG 1975
                                                            572            572
 C       700  *START INFORMATION SYSTEMS*
              PRECEDES      710      720      730      740   1 JUN 1973     1 JUN 1973
                                                            1              1
 C       710  *START COMMUNICATION SYSTEM DEVEL*
              PRECEDES      7111     7121     7131     7141  29 JUN 1973    29 JUN 1973
                            7151     7161     7171              21             21
 C       720  *START CAREER EDUC SYSTEM DEVEL*
              PRECEDES      7211     7212     7216           29 JUN 1973    29 JUN 1973
                                                            21             21
 C       730  *START READING PMRS SYSTEM DEVEL*
              PRECEDES      7311     7312     7315     7321  29 JUN 1973    29 JUN 1973
                                                            21             21
 C       740  *START MATERIALS COLLECTION*
              PRECEDES      7410     7420                    29 JUN 1973    29 JUN 1973
                                                            21             21
 C      7116  *START VCOM IMPLEMENTATION*
              PRECEDES      7117                         31 MAY 1974    31 MAY 1974
                                                            255            255
 C      7126  *START FCOM IMPLEMENTATION*
              PRECEDES      7127                         31 MAY 1974    31 MAY 1974
                                                            255            255
 C      7138  *START TWX  IMPLEMENTATION*
              PRECEDES      7139                         31 MAY 1974    31 MAY 1974
                                                            255            255
 C      7149  *START PROM IMPLEMENTATION*
              PRECEDES      71410                        31 MAY 1974    31 MAY 1974
                                                            255            255
 C      7159  *START CLRG IMPLEMENTATION*
              PRECEDES      71510                         8 FEB 1974     8 FEB 1974
                                                            176            176
 C      7165  *START NWSL IMPLEMENTATION*
              PRECEDES      7166                         31 AUG 1973    31 AUG 1973
                                                            65             65
 C      7178  *START  PR  IMPLEMENTATION*
              PRECEDES      7179     71710               14 SEP 1973    14 SEP 1973
                                                            74             74
 C      7329  *START PMRS IMPLEMENTATION*
              PRECEDES      73210    73211               31 MAY 1974    31 MAY 1974
                                                            255            255
 C      7410  *RECEIVE MATERIALS LISTS*
              PRECEDES      7411     7412     7426        1 OCT 1973    13 AUG 1973          UNFEASIBLE
                                                            85             51
 C      7420  *START MATERIALS CATALOGING EFFORT*
              PRECEDES      7421     7422                15 AUG 1973    15 AUG 1973
                                                            53             53
     PRECEDES     7431                                      4      1974       1 MAR 1974               UNFEASIBLE
                                                               215               191
C       7446   *START CIPC IMPLEMENTATION*
               PRECEDES     7447                           19 JUL 1974      31 MAY 1974               UNFEASIBLE
                                                               289               255
C      72111   *START CBRU IMPLEMENTATION*
               PRECEDES     72112                          31 MAY 1974      31 MAY 1974
                                                               255               255
C      73110   *START TXS IMPLEMENTATION*
               PRECEDES     73111     73112                31 MAY 1974      31 MAY 1974
                                                               255               255

                         E N D   O F   E V E N T   S C H E D U L E
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                                         A C T I V I T Y   S C H E D U L E
                                         *********************************
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ACTIVITY  DESCRIPTION                               DURA-   EARLY     LATE      EARLY     LATE     FREE  TOTAL
                                                    TION    START     START     FINISH    FINISH   FLOAT FLOAT
****************************************************************************************************************

   101  COMPLETE FINAL REPORT
          PRECEDES      102                          55    29MAY75   12JUN75   15AUG75   28AUG75     0     0
                                                             509       518       563       572
  7111  DVLP VCOM SPECIFICATIONS
          PRECEDES      7112                         10    29JUN73   30NOV73   13JUL73   13DEC73     0   107
                                                              21       128        30       137
  7112  DETERMINE VCOM HARDWARE CONFIG
          PRECEDES      7113      7114                2    16JUL73   14DEC73   17JUL73   17DEC73     0   107
                                                              31       138        32       139
  7113  ORDER & INSTALL VCOM HARDWARE
          PRECEDES      7115                         80    18JUL73   10JAN74    7NOV73    1MAY74    15   122
                                                              33       155       112       234
  7114  DEVELOP VCOM PROCEDURES
          PRECEDES      7115                         95    18JUL73   18DEC73   29NOV73    1MAY74     0   107
                                                              33       140       127       234
  7115  PILOT VCOM SYSTEM
          PRECEDES      7116                         20    30NOV73    2MAY74   28DEC73   29MAY74   107   107
                                                             128       235       147       254
  7117  DISTRIBUTE VCOM PROCEDURES
          PRECEDES      7118                         10    31MAY74    5AUG74   13JUN74   16AUG74     0    45
                                                             255       300       264       309
  7118  MAINTAIN VCOM SYSTEM
          PRECEDES      100                         199    14JUN74   19AUG74   26MAR75   28MAY75    45    45
                                                             265       310       463       508
  7121  DEVELOP FCOM SPECIFICATIONS
          PRECEDES      7122                         10    29JUN73   30NOV73   13JUL73   13DEC73     0   107
                                                              21       129        30       137
  7122  DETERMINE FCOM HARDWARE CONFIG
          PRECEDES      7123      7124                2    16JUL73   14DEC73   17JUL73   17DEC73     0   107
                                                              31       139        32       139
  7123  ORDER & INSTALL FCOM TELECOPIERS
          PRECEDES      7125                         80    18JUL73   10JAN74    7NOV73    1MAY74    15   122
                                                              33       155       112       234
  7124  DEVELOP FCOM PROCEDURES
          PRECEDES      7125                         95    18JUL73   18DEC73   29NOV73    1MAY74     0   107
                                                              33       140       127       234
  7125  PILOT FCOM SYSTEM
          PRECEDES      7126                         20    30NOV73    2MAY74   28DEC73   29MAY74   107   107
                                                             128       235       147       254
  7127  DISTRIBUTE FCOM PROCEDURES
          PRECEDES      7128                         10    31MAY74    5AUG74   13JUN74   16AUG74     0    45
                                                             255       300       264       309
  7128  MAINTAIN FCOM SYSTEM
          PRECEDES      100                         199    14JUN74   19AUG74   26MAR75   28MAY75    45    45
                                                             265       310       463       508
  7131  DEVELOP TWX SPECIFICATIONS
          PRECEDES      7132      7133               10    29JUN73   27NOV73   13JUL73   10DEC73     0   104
                                                              21       125        30       134
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    7132  DETERMINE TWX HARDWARE CONFIG
            PRECEDES     7134     7135     7136     2    16JUL73    14DEC73    17JUL73    17DEC73     0   107
                                                           31         138        32         139
    7133  ORDER & INSTALL PHONE LINES
            PRECEDES     7134                      20    16JUL73    11DEC73    10AUG73     9JAN74     0   104
                                                           31         135        50         154
    7134  ORDER & INSTALL TWX CONSOLES
            PRECEDES     7137                      80    13AUG73    10JAN74     4DEC73     1MAY74     0   104
                                                           51         155        130        234
    7135  OBTAIN PAPER TAPES
            PRECEDES     7137                      20    18JUL73     4APR74    14AUG73     1MAY74    78   182
                                                           33         215        52         234
    7136  DEVELOP TWX PROCEDURES
            PRECEDES     7137                      95    18JUL73    18DEC73    29NOV73     1MAY74     3   107
                                                           33         140        127        234
    7137  PILOT TWX SYSTEM
            PRECEDES     7138                      20     5DEC73     2MAY74     3JAN74    29MAY74   104   104
                                                           131        235        150        254
    7139  DISTRIBUTE TWX PROCEDURES
            PRECEDES     7131C                     10    31MAY74     5AUG74    13JUN74    16AUG74     0    45
                                                           255        300        264        309
    7141  SELECT PROM EDITOR & STAFF
            PRECEDES     7142     7143     7146     2    29JUN73    20SEP73     2JUL73    21SEP73     0    57
                                                           21         78         22         79
    7142  DETERMINE PROM FORMAT
            PRECEDES     7144                      10     3JUL73     8OCT73    17JUL73    19OCT73    10    67
                                                           23         90         32         99
    7143  DETERMINE CONTENTS & SUBJECTS
            PRECEDES     7144                      10     3JUL73     8OCT73    17JUL73    19OCT73    10    67
                                                           23         90         32         99
    7144  OBTAIN SAMPLE FORMS FOR PROM
            PRECEDES     7145                      50     1AUG73    22OCT73    10OCT73     2JAN74     0    57
                                                           43         100        92         149
    7145  DEVELOP PROCEDURES MANUAL (PROM)
            PRECEDES     7147                      95    11OCT73     3JAN74    25FEB74    15MAY74     0    57
                                                           93         150        187        244
    7146  OBTAIN PROM BINDERS & DIVIDERS
            PRECEDES     7144                      20     3JUL73    24SEP73    31JUL73    19OCT73     0    57
                                                           23         80         42         99
    7147  PRINT PROCEDURES MANUALS
            PRECEDES     7148                       5    26FEB74    16MAY74     4MAR74    22MAY74     0    57
                                                           188        245        192        249
    7148  ASSEMBLE PROCEDURES MANUALS
            PRECEDES     7149                       5     5MAR74    23MAY74    11MAR74    29MAY74    57    57
                                                           193        250        197        254
C   7151  DETERMINE CLRG CODING SYSTEM
            PRECEDES     7152     7156     7157    10    29JUN73    29JUN73    13JUL73    13JUL73     0     0
                                                           21         21         30         30
C   7152  DEVELOP CLRG APPLICATION FORM
            PRECEDES     7153     7154     7155    10    16JUL73    16JUL73    27JUL73    27JUL73     0     0
                                                           31         31         40         40
    7153  PRINT CLRG APPLICATION FORMS
            PRECEDES     7158                      10    30JUL73    27DEC73    10AUG73    10JAN74   105   105
                                                           41         146        50         155
C   7154  ADAPT IPC CLRG COMPUTER PROGRAM
            PRECEDES     7155                      20    30JUL73    30JUL73    24AUG73    24AUG73     0     0
                                                           41         41         60         60
C   7155  DEVELOP CLIENT REGISTRY PROCEDURES
            PRECEDES     7158                      95    27AUG73    27AUG73    10JAN74    10JAN74     0     0
                                                           61         61         155        155
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	7156	ORDER MAILING LABELS PRECEDES 7158	15	16JUL73 31	19DEC73 141	3AUG73 45	10JAN74 155	110	110
	7157	DESIGN & OBTAIN CLRG ID CARDS PRECEDES 7158	20	16JUL73 31	12DEC73 136	10AUG73 50	10JAN74 155	105	105
C	7158	PILOT CLIENT REGISTRY SYSTEM PRECEDES 7159	20	11JAN74 155	11JAN74 156	7FEB74 175	7FEB74 175	0	0
	7161	SELECT NEWSLETTER (NWSL) EDITOR PRECEDES 7162 7163 7164	1	29JUN73 21	16AUG73 54	29JUN73 21	16AUG73 54	0	33
	7162	DETERMINE NWSL FORMAT/CONTENT/NAME PRECEDES 7165	10	2JUL73 22	17AUG73 55	16JUL73 31	30AUG73 64	33	33
	7163	DETERMINE NWSL INFORMATION SOURCES PRECEDES 7165	10	2JUL73 22	17AUG73 55	16JUL73 31	30AUG73 64	33	33
	7164	OBTAIN BULK MAIL PERMIT PRECEDES 7165	5	2JUL73 22	24AUG73 60	9JUL73 26	30AUG73 64	38	38
	7166	COLLECT INFORMATION FOR NEWSLETTER PRECEDES 7167 7169	10	31AUG73 65	22JUL74 290	14SEP73 74	2AUG74 299	0	225
	7167	PREPARE COPY FOR NEWSLETTER PRECEDES 7168	2	17SEP73 75	5AUG74 300	18SEP73 76	6AUG74 301	0	225
	7168	GET NEWSLETTERS PRINTED PRECEDES 7161C	3	19SEP73 77	7AUG74 302	21SEP73 79	9AUG74 304	0	225
	7169	RUN MAILING LABELS FOR NEWSLETTER PRECEDES 7161C	2	17SEP73 75	8AUG74 303	18SEP73 76	9AUG74 304	3	228
	7171	SELECT PR EDITOR/STAFF PRECEDES 7172 7176 7177	2	29JUN73 21	19JUL73 34	2JUL73 22	20JUL73 35	0	13
	7172	DETERMINE PR NEEDS/OBJECTIVES PRECEDES 7173	3	3JUL73 23	23JUL73 36	6JUL73 25	25JUL73 38	0	13
	7173	DETERMINE PR INFORMATION SOURCES PRECEDES 7174	5	9JUL73 26	26JUL73 39	13JUL73 30	1AUG73 43	0	13
	7174	COLLECT PUBLIC RELATIONS INFO PRECEDES 7175	20	16JUL73 31	2AUG73 44	10AUG73 50	29AUG73 63	0	13
	7175	PREPARE & PRINT INITIAL PR COPY PRECEDES 7178	10	13AUG73 51	30AUG73 64	24AUG73 60	13SEP73 73	13	13
	7176	DETERMINE BEST PR OUTLETS PRECEDES 7178	20	3JUL73 23	16AUG73 54	31JUL73 42	13SEP73 73	31	31
	7177	DESIGN & PRINT PR PROMO BROCHURE PRECEDES 7178	35	3JUL73 23	26JUL73 39	21AUG73 57	13SEP73 73	16	16
	7179	DISTRIBUTE PR THRU OUTLETS PRECEDES 71711	5	14SEP73 74	12AUG74 305	20SEP73 78	16AUG74 309	0	231
	7211	OBTAIN CBRU SUB-CONTRACT W/ BUFFLO PRECEDES 7218	15	29JUN73 21	28FEB74 190	20JUL73 35	20MAR74 204	165	169
	7212	ANALYZE CBRU DATA BASE	20	29JUN73	6JUL73	27JUL73	2AUG73	0	4

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     PRECEDES     7213
                                                             21        25        40        44
7213  SELECT ITEMS FROM CBRU DATA BASE              15   30JUL73    3AUG73   17AUG73   23AUG73     0     4
        PRECEDES     7214     7426                          41        45        55        59
7214  IDENTIFY COMPATIBLE ITEMS                     15   20AUG73   24AUG73   10SEP73   14SEP73     0     4
        PRECEDES     7215     7426                          56        60        70        74
7215  DEVELOP CROSS REFERENCE SYSTEM                15   11SEP73   17SEP73    1OCT73    5OCT73     0     4
        PRECEDES     7217                                   71        75        85        89
7216  DESIGN & PRINT CBRU FORMS                     20   29JUN73   24JAN74   27JUL73   20FEB74   140   144
        PRECEDES     7217                                   21       165        40       184
7217  DEVELOP CBRU PROCEDURES                       95    2OCT73    8OCT73   14FEB74   20FEB74     0     4
        PRECEDES     7218                                   86        90       180       184
7218  DEVELOP CBRU TRAINING PACKAGE                 20   15FEB74   21FEB74   14MAR74   20MAR74     0     4
        PRECEDES     7219                                  181       185       200       204
7219  DEVELOP CBRU TV ORIENTATION PROGRAM           30   15MAR74   21MAR74   25APR74    1MAY74     0     4
        PRECEDES     72110                                 201       205       230       234
7311  OBTAIN TXS SUB-CONTRACT W/ TEXAS              15   29JUN73   31JAN74   20JUL73   20FEB74    55   149
        PRECEDES     7317                                   21       170        35       184
7312  ANALYZE TXS DATA BASE                         20   29JUN73   30JUL73   27JUL73   24AUG73     0    20
        PRECEDES     7313                                   21        41        40        60
7313  SELECT TXS MATERIALS FOR ORDER                30   30JUL73   27AUG73   10SEP73    8OCT73     0    20
        PRECEDES     7314     7426                          41        61        70        90
7314  PRINT TXS ABSTRACTS                           10   11SEP73   24JAN74   24SEP73    6FEB74     0    94
        PRECEDES     7316                                   71       165        80       174
7315  PRINT TXS FORMS                               15   29JUN73   17JAN74   20JUL73    6FEB74    45   139
        PRECEDES     7316                                   21       160        35       174
7316  DEVELOP TXS PROCEDURES                        10   25SEP73    7FEB74    8OCT73   20FEB74     0    94
        PRECEDES     7317                                   81       175        90       184
7317  DEVELOP TXS TRAINING PACKAGE                  20    9OCT73   21FEB74    5NOV73   20MAR74     0    94
        PRECEDES     7318                                   91       185       110       204
7318  DEVELOP TXS TV ORIENTATION PROGRAM            30    6NOV73   21MAR74   18DEC73    1MAY74     0    94
        PRECEDES     7319                                  111       205       140       234
7319  PILOT TXS SYSTEM                              20   19DEC73    2MAY74   17JAN74   29MAY74    94    94
        PRECEDES     73110                                 141       235       160       254
7321  OBTAIN SELECT-ED (PMRS) SYSTEM                15   29JUN73   23JUL73   20JUL73   10AUG73     0    15
        PRECEDES     7322                                   21        35        35        50
7322  ANALYZE PMRS DATA BASE                        20   23JUL73   13AUG73   17AUG73   10SEP73     0    15
        PRECEDES     7323     7324                          36        51        55        70
7323  SELECT PMRS MATERIALS                         20   20AUG73   11SEP73   17SEP73    8OCT73     0    15
        PRECEDES     7325     7426                          56        71        75        90
7324  DESIGN & PRINT PMRS FORMS                     15   20AUG73   17JAN74   10SEP73    6FEB74     5   104
        PRECEDES     7325                                   56       160        70       174
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	7325	DEVELOP PMRS PROCEDURES PRECEDES 7326	10	18SEP73 76	7FEB74 175	1OCT73 85	20FEB74 184	0	99
	7326	DEVELOP PMRS TRAINING PACKAGE PRECEDES 7327	20	2OCT73 96	21FEB74 185	29OCT73 105	20MAR74 204	0	99
	7327	DEVELOP PMRS TV ORIENTATION PROGRM PRECEDES 7328	30	30OCT73 106	21MAR74 205	11DEC73 135	1MAY74 234	0	99
	7328	PILOT PMRS SYSTEM PRECEDES 7329	20	12DEC73 136	2MAY74 235	10JAN74 155	29MAY74 254	99	99
C	7411	DESIGN & PRINT SLCT ORDER FORMS PRECEDES 7415	15	1OCT73 85	25SEP73 81	19OCT73 99	15OCT73 95	0	-4
C	7412	DISTRIBUTE SLCT MATRLS LISTS PRECEDES 7413	5	1OCT73 85	13AUG73 51	5OCT73 89	17AUG73 55	0	-34
C	7413	MATRLS LISTS RETURNED FROM RESAS PRECEDES 7414	20	8OCT73 90	20AUG73 56	2NOV73 109	17SEP73 75	0	-34
C	7414	COLLATE SLCT MATERIALS LISTS PRECEDES 7415	20	5NOV73 110	18SEP73 76	3DEC73 129	15OCT73 95	0	-34
C	7415	PREPARE SLCT ORDER FORMS PRECEDES 7416	20	4DEC73 130	16OCT73 96	2JAN74 149	12NOV73 115	0	-34
C	7416	ORDER SLCT INSTRUCTIONAL MATRLS PRECEDES 74210	5	3JAN74 150	13NOV73 116	9JAN74 154	19NOV73 120	0	-34
	7421	OBTAIN CATALOGING (CTLG) TOOLS PRECEDES 74211	35	15AUG73 53	27DEC73 146	3OCT73 87	14FEB74 180	127	93
	7422	DEVELOP RCC CTLG CALL NUMBER PRECEDES 7423 7424 7441	15	15AUG73 53	4SEP73 66	5SEP73 67	24SEP73 80	0	13
	7423	MODIFY IMC CATALOGING PROGRAM PRECEDES 7428 7429	20	6SEP73 68	25SEP73 81	3OCT73 87	22OCT73 100	22	13
	7424	MODIFY IMC CTLG CODING FORM PRECEDES 7425	3	6SEP73 68	7DEC73 133	10SEP73 70	11DEC73 135	0	65
	7425	PRINT CATALOGING FORMS PRECEDES 74211	5	11SEP73 71	12DEC73 136	17SEP73 75	18DEC73 140	99	65
C	7426	REVIEW MTRLS SLCT LIST VS IMC COLL PRECEDES 7427	15	1OCT73 85	18SEP73 76	19OCT73 99	8OCT73 90	0	-9
C	7427	EXTRACT MTRLS IN IMC COLLECTION PRECEDES 7428	10	22OCT73 100	9OCT73 91	2NOV73 109	22OCT73 100	0	-9
C	7428	MODIFY EXTRACTED IMC DATA PRECEDES 7429	20	5NOV73 110	23OCT73 101	3DEC73 129	19NOV73 120	0	-9
C	7429	TEST MODIFIED CATALOGING PROGRAM PRECEDES 74211	20	4DEC73 130	20NOV73 121	2JAN74 149	18DEC73 140	0	-9
C	7431	OBTAIN PROCESSING (PRCS) SUPPLIES PRECEDES 7432	1	4APR74 215	18MAR74 202	4APR74 215	18MAR74 202	0	-17

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C     7432  PREPARE MATRL LABELS & CRD POCKTS       30     5APR74     19MAR74     16MAY74     29APR74      0    -13
              PRECEDES      7433                             216         203         245         232
C     7433  PROCESS MATERIALS                       10    17MAY74     30APR74     31MAY74     13MAY74      0    -13
              PRECEDES      7434                             246         233         255         242
C     7434  PREPARE MATERIALS FOR SHIPMENT          10     3JUN74     14MAY74     14JUN74     27MAY74      0    -13
              PRECEDES      7435                             256         243         265         252
C     7435  SHIP PROCESSED MTRLS TO RESAS            2    17JUN74     28MAY74     18JUN74     29MAY74      0    -13
              PRECEDES      7446                             266         253         267         254
      7441  DESIGN CIRCULATION (CIRC) FORMS          5     6SEP73     10DEC73     12SEP73     24DEC73      0     72
              PRECEDES      7442      7443                    65         140          72         144
      7442  PRINT & OBTAIN CIRCULATION FORMS        15    13SEP73     26DEC73      3OCT73     16JAN74      0     72
              PRECEDES      7445                              73         145          87         159
      7443  MODIFY IMC PROGRAM  FOR REPRT GEN       40    13SEP73      7MAR74      7NOV73      1MAY74      0    122
              PRECEDES      7444                              73         195         112         234
      7444  TEST MODIFIED IMC CIRC PROGRAM          20     8NOV73      2MAY74      6DEC73     29MAY74    156    122
              PRECEDES      7446                             113         235         132         254
      7445  DEVELOP  CIRCULATION PROCEDURES         95     4OCT73     17JAN74     18FEB74     29MAY74    106     72
              PRECEDES      7446                              88         160         182         254
      7447  DISTRIBUTE CIRCULATION FORMS            10    19JUL74     30AUG74      1AUG74     13SEP74      0     30
              PRECEDES      7448                             289         319         298         328
      7448  OPERATE CIRCULATION SYSTEM             180     2AUG74     16SEP74     16APR75     28MAY75     30     30
              PRECEDES       100                             299         329         478         508
     71310  MAINTAIN TWX SYSTEM                    199    14JUN74     19AUG74     26MAR75     28MAY75     45     45
              PRECEDES       100                             265         310         463         508
     71410  DISTRIBUTE PRCM TO RESAS                10    31MAY74      5AUG74     13JUN74     16AUG74      0     45
              PRECEDES     71411                             255         300         264         309
     71411  MAINTAIN PROCEDURES MANUAL             199    14JUN74     19AUG74     26MAR75     28MAY75     45     45
              PRECEDES       100                             265         310         463         508
     71510  MAIL CLRG APPLICATIONS TO RESAS          5     8FEB74     23JAN75     14FEB74     29JAN75      0    243
              PRECEDES     71511                             176         419         180         423
     71511  CLIENTS COMPLETE CLRG APPLICATIONS      10    15FEB74     30JAN75     28FEB74     12FEB75      0    243
              PRECEDES     71512                             181         424         190         433
     71512  CLRG APPLICATIONS RCD AT RCC            20     1MAR74     13FEB75     28MAR74     12MAR75      0    243
              PRECEDES     71513                             191         434         210         453
     71513  RCC CODES CLRG APPLICATIONS             15    29MAR74     13MAR75     18APR74      2APR75      0    243
              PRECEDES     71514     71515               211         454         225         468
     71514  RCC TWX CLIENT LIST TO RESA              2    19APR74     29APR75     22APR74     30APR75     13    261
              PRECEDES     71520                             226         487         227         488
     71515  CLRG APPLICATIONS PROCESSED              5    19APR74      3APR75     25APR74      9APR75      0    243
              PRECEDES     71516     71519               226         469         230         473
     71516  CLRG ID CARDS COMPLETED                 10    26APR74     10APR75      9MAY74     23APR75      0    243
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         PRECEDES    71517
                                                  231        474       240 ---    483
71517  CLRG ID CARDS MAILED TO RESAS          10   10MAY74    24APR75   23MAY74    7MAY75      0    243
         PRECEDES    71518                          241        484       250        493
71518  CLRG ID CARDS DISTRIBUTED TO CLIENTS    5   24MAY74     8MAY75   31MAY74   14MAY75      0    243
         PRECEDES    71521                          251        494       255        498
71519  CLIENT DIRECTORIES PREPARED            10   26APR74    17APR75    9MAY74   30APR75      0    248
         PRECEDES    71520                          231        479       240        488
71520  CLIENT DIRECTORIES SENT TC RESAS       10   10MAY74     1MAY75   23MAY74   14MAY75      5    248
         PRECEDES    71521                          241        489       250        498
71521  CLIENT REGISTRY PURGED                 10    3JUN74    15MAY75   14JUN74   28MAY75      0    243
         PRECEDES    71522                          256        499       265        508
71522  IMPLEMENT CLRG FOR CAREER ED COURS     95    1FEB74    16JAN75   14JUN74   28MAY75      0    243
         PRECEDES    71523                          171        414       265        508
71523  IMPLEMENT CLRG FOR CAREER ED SEM 1     95    1FEB74    16JAN75   14JUN74   28MAY75      0    243
         PRECEDES    71524                          171        414       265        508
71524  IMPLEMENT CLRG FOR CAREER ED SEM 2     95    1FEB74    16JAN75   14JUN74   28MAY75    243    243
         PRECEDES      100                          171        414       265        508
71610  PREPARE NEWSLETTERS FOR MAILING         4   24SEP73    12AUG74   27SEP73   15AUG74      0    225
         PRECEDES    71611                           80        305        83        308
71611  MAIL NEWSLETTERS TO CLIENTS/RESAS       1   28SEP73    16AUG74   28SEP73   16AUG74      0,   225
         PRECEDES    71612                           84        309        84        309
71612  PREPARE SUBSEQUENT NEWSLETTERS        199    1OCT73    19AUG74   11JUL74   28MAY75    225    225
         PRECEDES      100                           85        310       283        508
71710  DISTRIB PR PROMO BRCCHURES              5   14SEP73    12AUG74   20SEP73   16AUG74      0    231
         PRECEDES    71711                           74        305        78        309
71711  MAINTAIN PUBLIC RELATICNS EFFORTS     199   21SEP73    19AUG74    2JUL74   28MAY75    231    231
         PRECEDES      100                           79        310       277        508
72110  PILOT CBRU SYSTEM                      20   26APR74     2MAY74   23MAY74   29MAY74      4      4
         PRECEDES    72111                          231        235       250        254
72112  DISTRIBUTE CBRU TRAINING PACKAGE        5   31MAY74    15AUG74    6JUN74   21AUG74      0     53
         PRECEDES    72113                          255        308       259        312
72113  TRAIN RESA STAFF IN USE OF CBRU         5    7JUN74    22AUG74   13JUN74   28AUG74      0     53
         PRECEDES    72114                          260        313       264        317
72114  BROADCAST CBRU TV ORIENTATION           1   14JUN74    29AUG74   14JUN74   29AUG74      0     53
         PRECEDES    72115                          265        318       265        318
72115  CBRU TRAINING FOR TEACHERS             10   17JUN74    30AUG74   28JUN74   13SEP74      0     53
         PRECEDES    72116                          266        319       275        328
72116  OPERATE CBRU SYSTEM                   100    1JUL74    16SEP74   14MAR75   28MAY75     53     53
         PRECEDES      100                          276        329       455        508
73111  DISTRIBUTE TXS ABSTRACTS                5   31MAY74    15AUG74    6JUN74   21AUG74      0     53
         PRECEDES    73113                          255        308       259        312
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     73112  DISTRIBUTE TXS TRAINING PACKAGE            5   31MAY74   15AUG74    6JUN74   21AUG74    0   53
              PRECEDES    73113                              255       308       259       312
     73113  TXS TRAINING FOR RESA STAFF                 5    7JUN74   22AUG74   13JUN74   28AUG74    0   53
              PRECEDES    73114                              260       313       264       317
     73114  BROADCAST TXS TV ORIENTATION                1   14JUN74   29AUG74   14JUN74   29AUG74    0   53
              PRECEDES    73115                              265       319       265       318
     73115  TXS TRAINING FOR TEACHERS                  10   17JUN74   30AUG74   28JUN74   13SEP74    0   53
              PRECEDES    73116                              266       319       275       328
     73116  OPERATE TXS SYSTEM                        180    1JUL74   16SEP74   14MAR75   28MAY75   53   53
              PRECEDES      100                              276       329       455       508
     73210  DISTRIBUTE PMRS UNITS                       5   31MAY74   15AUG74    6JUN74   21AUG74    0   53
              PRECEDES    73212                              255       308       259       312
     73211  DISTRIBUTE PMRS TRAINING PACKAGE            5   31MAY74   15AUG74    6JUN74   21AUG74    0   53
              PRECEDES    73212                              255       308       259       312
     73212  PMRS TRAINING FOR RESA STAFF                5    7JUN74   22AUG74   13JUN74   28AUG74    0   53
              PRECEDES    73213                              260       313       264       317
     73213  BROADCAST PMRS TV ORIENTATION               1   14JUN74   29AUG74   14JUN74   29AUG74    0   53
              PRECEDES    73214                              265       318       265       318
     73214  PMRS TRAINING FOR TEACHERS                 10   17JUN74   30AUG74   28JUN74   13SEP74    0   53
              PRECEDES    73215                              266       319       275       328
     73215  OPERATE PMRS SYSTEM                       180    1JUL74   16SEP74   14MAR75   28MAY75   53   53
              PRECEDES      100                              276       329       455       508
C    74210  RECEIVE CRDERED INSTRUCTNL MATRLS          60   10JAN74   20NOV73    3APR74   14FEB74    0  -34
              PRECEDES    74211                              155       121       214       180
C    74211  ORIGINAL CATALOG/CODE MTRLS RCD            40    7FEB74   19DEC73    3APR74   14FEB74    0  -34
              PRECEDES    743C    74212                      175       141       214       180
C    74212  PREPARE CTLG TAPE OF NON-IMC MTRLS         20    4APR74   15FEB74    1MAY74   14MAR74    0  -34
              PRECEDES    74213                              215       181       234       200
C    74213  RUN & CORRECT CTLG PROOF SHEETS            30    2MAY74   15MAR74   13JUN74   25APR74    0  -34
              PRECEDES    74214                              235       201       264       230
C    74214  MERGE NCN-IMC & IMC MTRLS TAPES             2   14JUN74   26APR74   17JUN74   29APR74    0  -34
              PRECEDES    74215                              265       231       266       232
C    74215  RUN CTLG PROGRAM TO GENERATE CARDS          3   18JUN74   30APR74   20JUN74    2MAY74    0  -34
              PRECEDES    74216                              267       233       269       235
C    74216  BURST & FILE CTLG CARDS                     5   21JUN74    3MAY74   27JUN74    9MAY74    0  -34
              PRECEDES    74217                              270       236       274       240
C    74217  RUN BOOK CATALOG                            3   28JUN74   10MAY74    2JUL74   14MAY74    0  -34
              PRECEDES    74218                              275       241       277       243
C    74218  PRINT BOOK CATALOGS FOR RESAS              10    3JUL74   15MAY74   17JUL74   28MAY74    0  -34
              PRECEDES    74219                              278       244       287       253
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:    742'9  MAIL BOCK CATALOGS TO RESAS                  1     18JI   .      29MAY74     18JUL74     29MAY74      0    -34
              PRECEDES      7446                                  28.          254         288         254
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D. RESOURCE ALLOCATION

Fiscal Resources Required by this component appear in the budget. Staffing for the component was as follows:

Component Director - T. A. Pasden

Management Information Specialist - Betty Bowling, Phase II

Reading Information Specialist - Alice Martinson

Technical Processing Specialist - Mary Clarkson, Phase II

E. SUMMARY OF EVALUATION ACTIVITIES

Formative Evaluation: for the Information Component centered around the production of instruments to record student information requests, personnel and equipment efficiency, user satisfaction, and the frequency and processing time required to complete components' requests for information.

More specifically, the Evaluation Component:

*6.7.1. supplied information on availability of audio video equipment and microfiche at the classroom sites;

6.7.2. designed student-information-requests instruments, procedures for recording the use of the information systems, and strategies for documenting the frequency and processing time of information requests from the components;

6.7.5. produced instruments for assessing user-satisfaction, RESA equipment and personnel efficiency, and equipment failure;

6.7.6. adapted forms used with the retrieval systems to fit project needs;

*Numbers refer to specific activities outlined in the evaluation mission description and thus are non-consecutive.

6.7.7. checked information-systems procedures for malfunction and documents turn-around time during dry-run use of the systems;

6.7.9. participated in information staff meetings where delays and innovations, and evaluation strategies were discussed;

6.7.10. provided input into information procedures manual.

Summative Evaluation: focused on measuring frequency with which the information systems were used, the efficiency of RESA and RCC personnel in getting information systems and other products developed by the Information Component.

More specifically, the Evaluation Component:

6.7.11. had users rate the different information systems on usefulness;

6.7.12. had the information systems personnel provide a rationale for the selection of the information systems used;

6.7.13. found out on the preliminary questionnaire how familiar the students already were with the information systems available for their use during the duration of the project;

6.7.14. assessed student attitude in regard to the ease and usefulness of the information systems and the procedures manual;

6.7.15. developed transmission numbering system that codes site location, system in use and number of times system used and constructs recording instruments in a form for easy computer transcribing;

6.7.17. analyzed effectiveness and efficiency of systems for particular programs requiring their use;

6.7.18. used all the data collected to assess how well the Information Component met its objectives;

6.7.20. assessed the effectiveness of RESA personnel using information systems;

6.7.21. supplied forms to record equipment condition prior to and during transmission of information via satellite or land lines;

6.7.22. prepared technical reports detailing the functions and procedures of the Information Component;

6.7.24. summarized and interpreted evaluation data pertaining to the Information Component and its products.

Specific evaluation findings related to Information Systems may be found in the following Technical Reports:

TR#6	User Ratings of Instructional Activities: Diagnostic and Prescriptive Reading Instruction (Summer, 1974)
TR#7	User Ratings of Instructional Activities: Career Education in the Elementary Grades (Summer, 1974)
TR#10	Cost Estimation Model for Selected Course Formats and Alternative Delivery Modes
TR#11	Summative Evaluation of Career Education in the Secondary School Course (Fall, 1974)
TR#12	Summative Evaluation of DPRI K-6 Course (Spring, 1975)

G. RECOMMENDATIONS

1. The initial proposal for future activities should specifically define the information systems to be incorporated and the exact cost and expected usage for each system. Lacking this, the present AESP project encountered difficulty in justifying the funding level it received and its role within the total scope of the project.

2. If teachers and educators are to make the best use of information systems, they must be made aware of how the systems can increase their effectiveness in the classroom. Because information systems involves new technologies and concepts, it is best if they begin with the development of the system so they know: what a system is, how to use it, how to put information in and how to retrieve it.

   In order to achieve this goal, information systems must be incorporated as an integral part of the course work. Manual systems can be developed or provided to the teachers on site. Another possibility is to make available terminals at each site which would give teachers immediate access to computer-based information systems. This could provide actual contact with the systems and make a more vivid impression of the immediacy of terminals and on-line systems.

3. As a part of course work, teachers should be required to identify and develop systems for the resources available to them in their locale. Provision for expansion and revision should be a part of the systems design. Models and/or guidance could be provided to them by the RCC or the site monitors.

4. An individual in each area, such as the site coordinator or an assistant designated by him/her should have specific training in the use of systems. Local expertise could insure that course participants would make the best possible use of the information systems resources available to them. Training could be done by the RCC before the actual start of programming.

MISSION 7.0 PROJECT EVALUATION

A. **OBJECTIVE:** To develop and implement a formative and summative evaluation plan for specified project activities.

B. **OUTCOMES:** 1. Formative evaluation furnished project personnel with information helpful to them in making decisions concerning product development. The technical report series, produced by the Evaluation Component, describes selected formative evaluation activities in detail.

C. **MISSION DESCRIPTION:** The evaluation plan, designed by the Evaluation Component of the AESP, involves formative and summative evaluation activities.

1. Formative evaluation provided information for decisions that affected the form of the products and procedures being developed. This information made possible pragmatic revision of products and procedures prior to the use of the materials in actual courses.

To be more specific, the Evaluation Component:

7.1. gathered, analyzed and provided feedback of data-base information;

7.2. conferred with component directors, staff, and consultants to gather information, discuss alternate procedures, and explain evaluation strategies;

7.3. specified component, project and course objectives behaviorally;

7.4. had experts and/or agents rate objectives, preliminary versions of software, and equipment developed, and analyzed and interpreted the data; the information was used for refinement of the products;

7.5. produced test items, scales, forms;

7.6. had evaluation measurement devices checked by subject-matter experts, field representatives and experts in the construction of measurement devices;

7.7. tried out selected evaluation instruments, software and equipment produced;

7.8. administered experimental studies with university students prior to broadcast of the courses, analyzed and interpreted the data in order to measure the effectiveness of the separate activities in the learning sequence;

7.9. assisted the Management Component in monitoring the progress of the project components in meeting production milestones;

7.10. explained RESA evaluation tasks and benefits to field representatives;

2. Summative evaluation assessed the appropriateness, effectiveness, and long-range potential of the completed products and procedures.

To be more specific, the Evaluation Component:

7.11. had users rank/rate different features of the course;

7.12. had experts rate technical and presentation features of the course;

7.13. prepared for the participating teachers to complete during the preliminary meeting a background questionnaire and a pretest;

7.14. assessed the attitudes of the teachers enrolled to determine whether affective objectives had been achieved;

7.15. developed administration, distribution, scoring and feedback procedures for unit and posttest and other evaluation instruments;

7.16. organized a 3-group study during the administration of the course in order to assess the effectiveness of separate learning activities and the entire learning sequence;

7.17. evaluated the success of the course from data collected during the administration of the course;

7.18. evaluated the success of each RCC component in meeting component objectives;

7.19. evaluated the success of the Evaluation Component in evaluating specific aspects of the project;

7.20. evaluated the success of the RESA personnel in meeting course-related objectives;

7.21. evaluated the adequacy of satellite transmission and special equipment designed for the project;

7.22. wrote quarterly reports and published technical reports to document and summarize selected evaluation activities;

7.23. assessed the cost of products developed, comparing the cost to other in-service programs;

7.24. summarized evaluation data and interpretations in final report;

7.25. designed and implemented funded follow-up studies.

Specific results of the evaluation component's activities may be found in the series of 12 Technical Reports which will be completed by September 1, 1975. The topics of these reports are:

TR#1	AESP Data Base Information: Rationale. Data Collection Procedure, Interpretation of Results
TR#2	An Experiment in Educational Technology: an Overview of the Appalachian Education Satellite Project
TR#3	Formative Evaluation Study for AESP Diagnostic and Prescriptive Reading Course
TR#4	Evaluation Design: Summer Courses, 1974
TR#5	Performance of AESP Transmission/Reception Equipment
TR#6	User Ratings of Instructional Activities: Diagnostic and Prescriptive Reading Instruction (Summer, 1974)

TR#7	User Ratings of Instructional Activities: Career Education in the Elementary Grades (Summer, 1974)
TR#8	User Achievement of Diagnostic and Prescriptive Reading Instruction Course (Summer, 1974)
TR#9	User Achievement of Career Education in the Elementary Grades (Summer, 1974)
TR#10	Cost Estimation Model for Alternative Course Formats and Delivery Modes
TR#11	Summative Evaluation of Career Education in the Secondary School Course (Fall, 1974)
TR#12	Summative Evaluation of Diagnostic Prescriptive Reading Instruction K-6 Course (Spring, 1975)

Outline of Working Relationships with Other Project Staff and External Agencies

Within the AESP the Evaluation Component related to:

TELEVISION

a. Obtained copies of videotaped materials when available to perform audience reaction studies.

b. Explained evaluation results relating to various products from the Television Component.

c. Participated in discussions with Children's Theater Workshop personnel on team approach to production.

d. Identified exemplary programs for possible filming.

e. Cooperated on collection of transmission data.

READING

a. Assisted Reading Component in field review of scripts.

b. Provided in-progress critiques of early versions of scripts.

c. Helped specify objectives and define them behaviorally script by script.

d. Constructed items to measure student performance and had these reviewed by Reading Component.

e. Scored examinations and explained results.

f. Explained results of evaluation.

g. Revised course examination based on results from first administration and suggestions from reading component.

h. Conducted audience reaction study of one program.

i. Constructed Procedures Manual for summer course.

FOUR-CHANNEL AUDIO

a. Assisted Four-Channel Audio Component with review of questions by university students.

b. Constructed exemplary questions and alternatives to guide writers of questions.

c. Monitored student performance and provided summary information regarding responses.

d. Explained evaluation results.

CAREER EDUCATION

a. Assisted Career Education Component in outlining scripts.

b. Developed a field review policy and instrument for review of scripts in developing courses.

c. Defined objectives for courses.

d. Constructed Procedures Manual for summer course.

e. Constructed items to measure student performance and had these items reviewed by Career Education Component.

f. Scored examinations and explained results.

g. Explained results of evaluation.

h. Developed preassessment questionnaire.

MANAGEMENT COMPONENT

a. Assisted in project planning.

b. Provided descriptive data and maps on the region and the participating RESAs.

c. Explained and discussed the evaluation plans with the Management Component.

d. Assisted the Management Component with their efforts to assess AESP courses, materials and student progress by providing data summaries from evaluation instruments.

e. Assisted with dissemination of information about the project through distribution of reports, brochures, presentations at professional meetings, and slide shows.

f. Met with consultant to discuss procedures for cost studies and devised preliminary cost model.

INFORMATION COMPONENT

a. Assisted in the design of information retrieval forms and request procedures.

b. Conferred on ways to assess information retrieval systems.

c. Explained evaluation results.

COOPERATING RESAs

a. Explained evaluation plans to RESA representatives.

b. Provided evaluation manuals and training sessions for site coordinators.

c. Provided advice on a day-to-day basis by phone, VHF, and mail regarding problems arising during the administration of evaluation instruments.

d. Discussed evaluation procedures with and received feedback from site coordinators.

e. Provided feedback on evaluation results to RESA representatives in individualized and general summary reports.

f. Visited the RESAs to establish rapport, explain procedures, and disseminate information.

g. Provided technical reports on evaluation designs and data collected.

APPALACHIAN REGIONAL COMMISSION

a. Explained evaluation plans in prospectus papers and flow charts.

b. Discussed the evaluation plans with ARC representatives.

c. Obtained required clearance for measuring instruments.

d. Provided feedback on evaluation results.

e. Prepared a list of project-wide educational and experimental objectives.

f. Developed a report for ARC presentation at the Eastern National Education Technology Conference.

Outside the AESP the Evaluation Component related to:

N.I.E.

a. Presented and explained evaluation plans.

b. Discussed evaluation plans with N.I.E. representatives.

c. Met with N.I.E. representatives and bidders for the outside evaluation contract.

d. Provided regular progress and summative reports on evaluation activities and data collected.

OUTSIDE EVALUATORS

a. Discussed AESP evaluation plans with several groups at the bidders' conference in Lexington.

b. Met with outside evaluators on two occasions in Lexington to provide information on the project.

CONSULTANTS

a. Interacted on ways to assess cost-effectiveness.

b. Interacted on ways to improve and implement evaluation design.

c. Interacted on ways of establishing a fruitful working relationship between evaluation and TV production personnel.

d. Had unit questions reviewed by expert in test construction.

OTHER PROJECTS

a. Explained organization and activities of evaluation to Rocco del Vecchio from the Ontario Educational Communications Authority.

b. Established documentation file.

c. Developed mailing list for dissemination of technical reports.

ENGINEERING

a. Requested, worked to improve, and tested four-channel evaluation equipment.

b. Assisted in documentation of their activities.

D. RESOURCE ALLOCATION: Fiscal resources required for Mission 7.0 are specified in the budget section. The staff responsible for the mission are as follows:

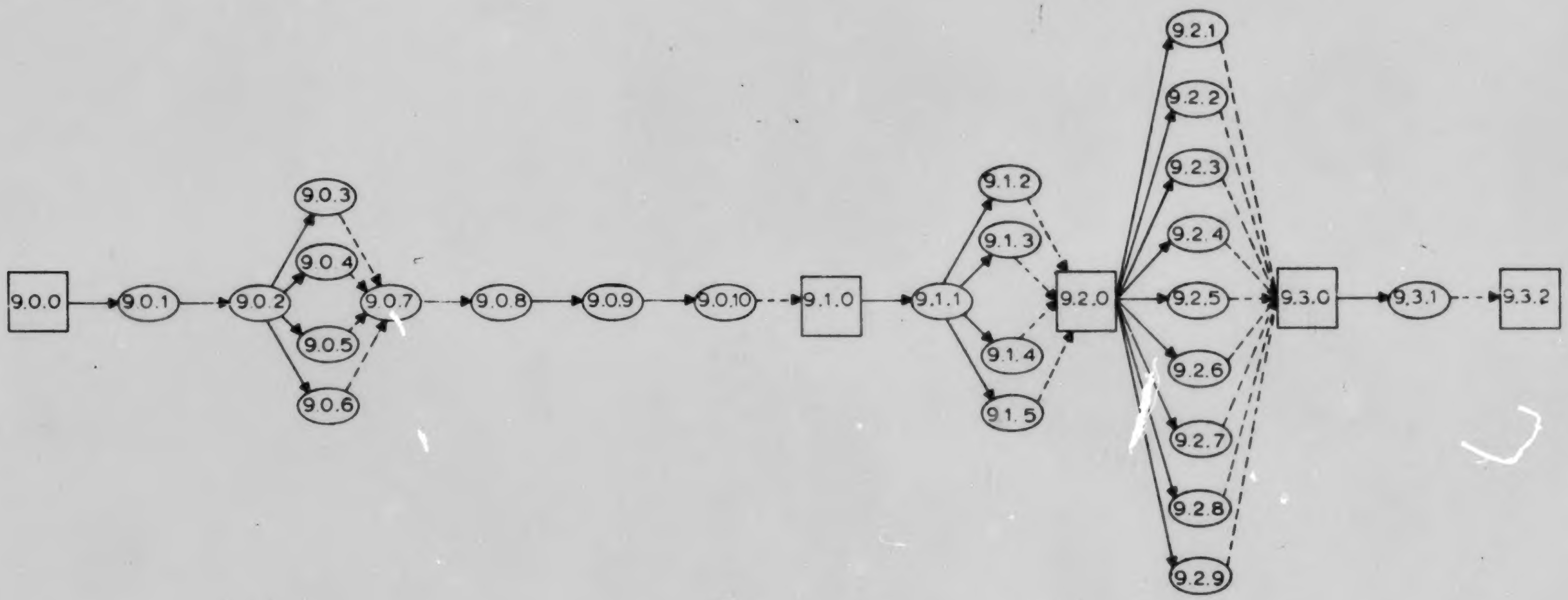
Mission Director - William Bramble

Evaluation Coordinator - Claudine Ausness

Evaluator - Rodger Marion, Phase III

Graduate Assistants - Larry Harding
Robert Wetter

E. TIME LINES: The time lines for the Evaluation Component are on the following pages. These time lines were designed to be planning tools for the developmental phase of the project. They accurately reflect the milestones of the project and the start and finish dates with one exception. Development of a second reading course replaced the planned second career education seminar.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9.2.3
9.2.4
9.2.5
9.2.6
9.2.7
9.2.8
9.2.9
9.3.0
9.3.1
9.3.2

APPALACHIAN APPLIED TECHNOLOGY SATELLITE PROJECT	SUMMARY NETWORK FOR MISSION 7.0 – PROJECT EVALUATION	START: 1 JULY 1973 FINISH: 31 AUG. 1975	FIG. 9.0
UNIVERSITY OF KENTUCKY		PROJECT DIRECTOR: LARIMORE NETWORK DEVELOPER: BLACKHURST	1 JULY 7

SCHEDULE FOR MISSION .0 PROJECT EVALUATION

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*  S C H E D U L E    F O R    P R O J E C T    'ATSF-TV '  *
*************************************************************


PROJECT CURATION IS   572 WORK DAYS,  WORK WEEK IS 5 DAYS
WORK IS SCHEDULED TO START ON THE MORNING OF  1 JUN 1973
AND TO BE COMPLETED ON THE AFTERNOON OF 28 AUG 1975.


THE PROJECT 'ATSF-TV ' NETWORK HAS
  25 ACTIVITIES OF WHICH   25 APPEAR ON THIS REPORT OR SCHEDULE
   5 MILESTONE EVENTS OF WHICH    5  APPEAR ON THIS REPORT OR SCHEDULE


THE FOLLCWING USER-ASSIGNED CONSTRAINTS HAVE BEEN USED IN SCHEDULING.

     EVENT       932           *FINAL REPORT SUBMITTED*                IS TO OCCUR  ON  DAY   31 AUG 1975
     EVENT       930           *FINAL REPORT STARTED*                  IS TO OCCUR  ON  DAY    1 JUN 1975
     EVENT       920           *EVALUATION STARTED*                    IS TO OCCUR  ON  DAY    1 NOV 1973
     EVENT       910           *EVALUATION DEVELOPMENT STARTED*        IS TO OCCUR  ON  DAY    1 OCT 1973
     EVENT       900           *START NEEDS ASSESSMENT*                IS TO OCCUR  ON  DAY    1 JUN 1973

ACTIVITIES ARE SCHEDULED TO START ON THE MORNING OF THE SPECIFIED WORKDAY OR DATE
AND TO FINISH ON THE AFTERNOON OF THE SPECIFIED WORKDAY OR DATE.

EVENTS ARE SCHEDULED FOR THE MORNING AFTER THE LAST PRECEDING ACTIVITY FINISHES,
EXCEPT FOR EVENTS OCCURRING CN THE PROJECT COMPLETION DATE.

ACTIVITIES AND EVENTS ARE SORTED ACCORDING TO   NODE NUMBERS

'C' IN MARGIN DESIGNATES A CRITICAL ACTIVITY OR EVENT.


HOLIDAYS AND NON-WORKING DAYS FOR PROJECT 'ATSF-TV '

                   4 JUL 1973
                   3 SEP 1973
                  22 NOV 1973
                  25 DEC 1973
                   1 JAN 1974
                  30 MAY 1974
                   4 JUL 1974
                   2 SEP 1974
                  21 NOV 1974
                  25 DEC 1974
                   1 JAN 1975
                  30 MAY 1975
                   4 JUL 1975
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                    E V E N T   S C H E D U L E
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     EVENT DESCRIPTION                                    EARLY TIME     LATE TIME

*******************************************************************************
C        900  *START NEEDS ASSESSMENT*                     1 JUN 1973     1 JUN 1973
              PRECEDES      901                               1              1
C        910  *EVALUATION DEVELOPMENT STARTED*             1 OCT 1973     1 OCT 1973
              PRECEDES      911                               85             85
C        920  *EVALUATION STARTED*                         1 NOV 1973     1 NOV 1973
              PRECEDES      921       922       923       924     108            108
                            925       926       927       928

                            929
C        930  *FINAL REPORT STARTED*                      29 MAY 1975    29 MAY 1975
              PRECEDES      931                              509            509
C        932  *FINAL REPORT SUBMITTED*                    28 AUG 1975    28 AUG 1975
              SINK EVENT                                     572            572

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ACTIVITY SCHEDULE

ACTIVITY	DESCRIPTION	DURA-TION	EARLY START	LATE START	EARLY FINISH	LATE FINISH	FREE FLOAT	TOTAL FLOAT
901	NEEDS ASSESS RATIONALE DEVELOPED PRECEDES 902	20	1JUN73 1	29JUN73 21	28JUN73 20	27JUL73 40	0	20
902	NEEDS ASSESS OBJECTIVES COMPLETED PRECEDES 903 904 905 906	2	29JUN73 21	30JUL73 41	2JUL73 22	31JUL73 42	0	20
903	NEEDS ASSESS INSTRUMENTS DESIGNED PRECEDES 907	15	3JUL73 23	1AUG73 43	24JUL73 37	21AUG73 57	0	20
904	NEEDS ASSESS SAMPLE SELECTED PRECEDES 907	15	3JUL73 23	1AUG73 43	24JUL73 37	21AUG73 57	0	20
905	NEEDS ASSESS PROCEDURES DEVELOPED PRECEDES 907	15	3JUL73 23	1AUG73 43	24JUL73 37	21AUG73 57	0	20
906	NEEDS ASSESS INTERVIEWERS TRAINED PRECEDES 907	2	3JUL73 23	20AUG73 56	5JUL73 24	21AUG73 57	13	33
907	NEEDS ASSESS DATA COLLECTED PRECEDES 908	15	25JUL73 38	22AUG73 58	14AUG73 52	12SEP73 72	0	20
908	NEEDS ASSESS DATA TABULATED PRECEDES 909	2	15AUG73 53	13SEP73 73	16AUG73 54	14SEP73 74	0	20
909	NEEDS ASSESS DATA ANALYZED PRECEDES 9010	5	17AUG73 55	17SEP73 75	23AUG73 59	21SEP73 79	0	20
911	ALL OBJECTIVES COMPLETED PRECEDES 912 913 914 915	3	1OCT73 85	8OCT73 90	3OCT73 87	10OCT73 92	0	5
912	ALL CONTEXT EVAL PRCDRS DEVELOPED PRECEDES 920	15	4OCT73 88	11OCT73 93	24OCT73 102	31OCT73 107	5	5
913	ALL INPUT EVAL PRCDRS DEVELOPED PRECEDES 920	15	4OCT73 88	11OCT73 93	24OCT73 102	31OCT73 107	5	5
914	ALL PROCESS EVAL PRCDRS DEVELOPED PRECEDES 920	15	4OCT73 88	11OCT73 93	24OCT73 102	31OCT73 107	5	5
915	ALL PRODUCT EVAL PRCDRS DEVELOPED PRECEDES 920	15	4OCT73 88	11OCT73 93	24OCT73 102	31OCT73 107	5	5
921	READING PROGRAM EVALUATED PRECEDES 930	60	1NOV73 108	6MAR75 449	28JAN74 167	28MAY75 508	341	341
922	CAREER EDUCATION COURSE EVALUATED PRECEDES 930	60	1NOV73 108	6MAR75 449	28JAN74 167	28MAY75 508	341	341

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9[illegible]   CAREER EDUCATION SEM 1 EVALUATED        160     1NOV      14OCT74    18JUN74    28MAY75    241    241
      PRECEDES       930                                       108       349        267        508

924   CAREER EDUCATION SEM 2 EVALUATED        160     1NOV73    14OCT74    18JUN74    28MAY75    241    241
      PRECEDES       930                                       108       349        267        508

925   FOUR CHANNEL AUDIO PRGRM EVALUATED       60     1NOV73     6MAR75    28JAN74    28MAY75    341    341
      PRECEDES       930                                       108       449        167        508

926   TV PRODUCTION & BROADCAST               200     1NOV73    16AUG74    14AUG74    28MAY75    201    201
      PRECEDES       930                                       108       309        307        508

927   INFORMATION SYSTEM EVALUATED            200     1NOV73    16AUG74    14AUG74    28MAY75    201    201
      PRECEDES       930                                       108       309        307        508

928   PROJECT MANAGEMENT SYSTM EVALUATED      200     1NOV73    16AUG74    14AUG74    28MAY75    201    201
      PRECEDES       930                                       108       309        307        508

929   EVALUATION SYSTEM EVALUATED             200     1NOV73    16AUG74    14AUG74    28MAY75    201    201
      PRECEDES       930                                       108       309        307        508

931   FINAL REPORT COMPLETED                   40    29MAY75     3JUL75    25JUL75    28AUG75     24     24
      PRECEDES       932                                       509       533        548        572

901C  NEEDS ASSESS REPORT COMPLETED             5    24AUG73    24SEP73    30AUG73    28SEP73     20     20
      PRECEDES       910                                        60        80         64         84

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F. RECOMMENDATIONS

1. Production teams should be formed for product development.

   The evaluation goals specified in the original proposal were purposely modest, reflecting the wishes of the initial granting agency. However, when NIE became the funding agency for the project early in Phase II, the evaluation plan was greatly expanded, with funding for the component over the 27 months of the project tripling.

   In spite of the increase in funding, the time frame for production remained extremely tight. Consequently, the opportunities for extensive involvement of the Evaluation Component in the production process were limited. The result was that most of the products used in AESP courses were not piloted prior to use and very little revision was possible prior to their use.

   For this reason, Evaluation recommends that production teams be created on future projects. These teams should include, at minimum, a content specialist, a media specialist, and an evaluation expert. The team should be structured and the task defined such that input from formative evaluation activities would have impact upon product development and revision.

2. A careful needs assessment should be implemented to determine priorities for product development.

   These studies would be carried out to determine which courses are most appropriate for the target population and which facets of a subject or program are most essential to the population.

3. Communication with persons involved in similar projects should be encouraged.

   There is no need to reinvent the wheel on every project. In fact, the identification of different ways other people are trying to accomplish similar objectives would be a helpful initial evaluation activity. The funding of joint planning meetings with other satellite users and meetings to share preliminary evaluation results should be encouraged.

4. Dissemination of evaluation results should be encouraged.

   The technical report series, brochures, and slide presentations at professional meetings have been well received. These products document what was learned in the project for later courses produced or for other projects.

5. Adequate follow-up studies are essential to a thorough evaluation effort.

   Through follow-up studies it may be possible to estimate the long-term effect of courses on the actual educational setting. In the AESP project, funding was not provided for classroom observation of teachers who took the course. Thus, it was necessary to rely on the potentially less accurate self-report procedure to determine the extent to which the techniques presented in the reading and career education courses were actually applied by course participants in their classrooms.

6. More lead time is needed if quality evaluation plans are to be developed and implemented.

   The effect of insufficient lead time on formative evaluation was discussed under recommendation #1. Adequate lead time is also a requirement for an adequate summative evaluation effort. Instruments to assess the quality of products should be based on the final version of the product or, at least, on a precise definition of what the final product will look like.

7. Evaluation procedures must be carefully conceptualized and clearly described.

   This is essential when sites are widely scattered, when non-professional evaluators are responsible for collecting the data, and when the data collected is voluminous. Evaluation procedures should be made simple as possible to obtain the desired information and they should be clearly delineated. As far as possible the data should be gathered on forms capable of electronic scoring and stored on computer disks. A carefully constructed slide show describing evaluation procedures might be helpful not only to initially introduce site coordinators to their responsibilities but also to explain to them phrases they might not understand.

RESOURCE COORDINATING CENTER

SUMMARY BUDGET

RESOURCE COORDINATING CENTER
SUMMARY BUDGET

	PHASE I	PHASE II	PHASE III
MANAGEMENT	$24,299	$114,963	$171,896
TELEVISION	11,205	189,304	196,286
CAREER EDUCATION	20,419	135,720	100,378
READING	11,459	67,064	81,385
FOUR CHANNEL		14,286	2,955
INFORMATION SYSTEMS	16,678	56,737	71,431
EVALUATION		46,995	92,533
TOTAL	$84,060	$625,069	$716,864

MANAGEMENT

	PHASE I	PHASE II	PHASE III
SALARIES	$9,126	$58,292	$93,763
BENEFITS	964	12,860	14,064
SUPPLIES	1,600	1,000	1,500
TRAVEL	1,250	2,984	4,500
DUPLICATING	250	2,196	5,000
BOARD MEETING	2,500	4,000	
COMMUNICATIONS	1,000	1,500	1,500
SLIDE SHOW	1,000		
EQUIPMENT	1,590	70	
DIRECT COST	19,280	82,902	120,327
INDIRECT COST	5,019	32,061	51,569
TOTAL	$24,299	$114,963	$171,896

CAREER EDUCATION

	PHASE I	PHASE II	PHASE III
SALARIES	$7,020	$40,854	$25,350
BENEFITS	488	5,850	3,802
SUPPLIES	200	34,946*	300
INSTRUCTIONAL SUPPLIES	4,500	13,250	10,000
TRAVEL	2,150	11,334	3,500
PRINTING	500	5,500	2,750
CONSULTANTS	600	4,016	16,000
COMMUNICATION	1,100	500	500
SUB CONTRACT			24,234
DIRECT COST	16,558	116,250	86,436
INDIRECT COST	3,861	19,470	13,942
TOTAL	$20,419	$135,720	$100,378

*Includes pre-course workshop and course monitors

READING

	PHASE I	PHASE II	PHASE III
SALARIES	$4,800	$17,363	$28,992
BENEFITS	744	2,557	4,348
CONSULTANTS	700		9,600
SUPPLIES	575	19,400*	15,000
TRAVEL	1,250	3,400	3,500
PRE COURSE WORKSHOP		9,750	
COMMUNICATIONS	750	3,500	500
PRINTING			3,500
COMPUTER		240	
DIRECT COST	$8,819	56,210	65,440
INDIRECT COST	2,640	10,854	15,945
TOTAL	$11,459	$67,064	$81,385

*Includes instructional supplies

FOUR-CHANNEL

	PHASE I	PHASE II	PHASE III
SALARIES		$8,255	$1,370
BENEFITS		1,000	206
SUPPLIES		500	625
TOTAL DIRECT COST		9,755	2,201
INDIRECT COST		4,531	754
TOTAL		$14,286	$2,955

INFORMATION SYSTEMS

	PHASE I	PHASE II	PHASE III
SALARIES	$9,700	$29,362	$23,195
BENEFITS	643	3,863	3,479
TRAVEL	1,000	1,725	1,500
SUPPLIES		8,439	500
COMPUTER		1,000	500
COMMUNICATIONS		1,800	1,000
DUPLICATION			2,500
CONTRACTED SERVICES		500	26,000
DIRECT COST	11,343	46,689	58,674
INDIRECT COST	5,335	10,048	12,757
TOTAL	$16,678	$56,737	$71,431

INSTRUCTIONAL TELEVISION

	PHASE I	PHASE II	PHASE III
SALARIES	$3,150	$54,054	$71,216
BENEFITS	173	8,108	10,682
SUPPLIES	6,000	70,415	57,420
TRAVEL		13,585	
TELEPHONE	150	850	900
CONSULTANTS		7,000	
EQUIPMENT		5,560	
TAPE			7,800
STUDIO USE			9,100
DIRECT COST	9,473	159,572	157,118
INDIRECT COST	1,732	29,732	39,168
TOTAL	$11,205	$189,304	$196,286

EVALUATION

	PHASE I	PHASE II	PHASE III
SALARIES		23,080	47,490
BENEFITS		2,853	7,123
CONSULTANTS		3,868	
SUPPLIES		1,500	1,000
TRAVEL		800	2,000
COMPUTER		1,800	1,800
COMMUNICATIONS		400	1,000
DUPLICATION			6,000
DIRECT COSTS		$34,301	$66,413
INDIRECT COSTS		12,694	26,120
TOTAL		$46,995	$92,533

APPENDIX A

Mission 4.0, Four Channel Audio

"THE FOUR-CHANNEL AUDIO COMPONENT OF THE APPALACHIAN EDUCATION SATELLITE PROJECT"

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A paper for presentation at the Conference on University
Applications of Satellite/Cable Technology
University of Wisconsin-Extension
Madison, Wisconsin

June 4, 1975

"The Four-Channel Audio Component of the Appalachian Education Satellite Project", Frank V. Colton and Alice Martinson, University of Kentucky.

Introduction

The Four-Channel Audio Component of the Appalachian Education Satellite Project (AESP) was developed to take advantage of the Applied Technology Satellite's (ATS-6) capability to transmit four audio channels. When the Appalachian Regional Commission first described the proposed education project it stated that audio channels available through a satellite would be used for four-channel audio programmed instruction in career education and reading. From the outset University of Kentucky personnel recognized the four-channel audio mission as highly experimental in nature. There was little, if any, evidence to either support or refute the theory that people can learn through the technique of programmed instruction delivered through the medium of audio tapes. The use of a system which electronically records student responses for evaluative purposes was new. Addedly, it was experimental from a technological point of view since the equipment to perform these functions had to be designed and the possibility of delivering simultaneous broadcasts via satellite had to be tried.

The Four-Channel Audio system's objective was to produce pre-programmed audio programs which would serve to review and enhance the content of the video taped programs in reading and career education being beamed to teachers in Appalachia. Each four-channel audio program was 15 minutes in length and a total of 26 were produced during the project. After participants viewed the television programs they put on headsets and while seated before individual response pads heard questions, usually stated in the form of a problematical situation. For example, here is a question taken from a four-channel audio program which followed the video tape entitled, "Reading Miscue Inventory".

Heidi is one of Mrs. Liddle's students who is having some difficulty with reading. Mrs. Liddle has prepared a Paul Bunyan story to use in administering the RMI to Heidi. Heidi has been making many errors as she orally reads the story of Paul Bunyan. Listen to her read the last part of the story:

> . . . We worked (work) for three hours to prepare that meal. It (Hit) consisted of thirty- (thirsty) three pounds (pangs) of beef, one deer, and two bushels of fried potaties. There (They) were (was) twelve loaves of bread, seven gallons ($\overline{\text{ga}}$ loons) of coffee, six hams, and twelve dozen eggs. Sic hundred pancakes, topped off with six gallons ($\overline{\text{ga}}$ loons) of pure (purr) maple syrup (si rup), finished his meal. Paul Bunyan was hungry (hongry).

After Heidi had finished reading, Mrs. Liddle asked her to review what she had read. Heidi did very well on the comprehension section of the inventory. She could recall accurately almost all details of the story. Which of the following statements best summarizes reading in situations such as this:

A. Heidi is not a good reader because she made so many oral errors.

B. Reading is a complex process of interrelated skills.

C. It is of great importance to have a child read orally without mistakes.

D. Reading is comprehending the printed page.

Respondents were also furnished the four alternative choices in written form to reduce the mental burden of having to store the choices while deciding upon their selection. Then, upon hearing an audible tone, they pressed a corresponding console button thus allowing the electronic monitoring system to record not only the accuracy or inaccuracy of their choice, but also the latency of the response plus any change in the response which occurred during the one-minute answer time interval. After one minute the respondents heard (on the particular channel they had pressed) whether their response was correct or incorrect plus a description of the factors which should have been considered in making their respones.

After some of the television-audio sessions, participants also took part in live television seminars which gave them further opportunities to discuss the topics currently being emphasized. Finally, the students were able to supplement their mediated instruction by having access to computerized depositories allowing them to make specialized searches for additional materials.

Background

Because the Applied Technology Satellite had the four-channel audio capability, the choice of the programmed instruction format seemed at least logical. Early in the discussion of the four-channel audio mission's potential it was felt that a simultaneous presentation of a television picture with a four-channel programmed instruction format might have been an interesting experimental gamble. But the constraints of low-budgeting and content dependency on other scripts being finished first (i.e., video scripts for reading and career education) soon made it apparent that the audio experiment would best be conducted strictly in that format.

Because of the expectation that the four-channel audio experiment would be handled in a programmed instruction format a major task became looking retrospectively for the traditional theoretical point of departure.

Over the years researchers have engaged in an over-indulgence of studies which pitted one medium against another while neglecting to look for interactions between media and tasks and/or subjects. Consequently, when literature searches were conducted with the intention of locating evidence to support the selection of certain media for certain tasks to be achieved by certain types of learners, one often came away from the effort with very little more than the "no significant difference" finding. Therefore, as a second ploy one had to look for rather broad generalizations from studies which did not always fit exactly the medium-task-subject pattern just alluded to. Such was the case with the literature search for the four-channel audio segment of this project.

In the opening sentences of the chapter "The Analysis and Application of Media" by Levie and Dickie in the 1973 edition of The Second Handbook of Research on Teaching, the authors pose a significant yet perhaps inappropriate question:

> "One decision facing a communicator is the selection of the means he will use to present his message. Should some form of print be used or would an audio presentation be better?" (p. 858).

The statement is significant and possibly inappropriate because it suggests an "either-or" choice; that is, why should the choice necessarily be print or audio? Why might not the question be more accurately phrased, "What combinations of print and audio would serve to facilitate learning?" And we would further add, ". . . for what tasks and for what learners?"

In all fairness to Levie and Dickey the authors do disclose later in their chapter that the central question of media selection ultimately does become, "What media attributes (our italics) are appropriate for the given task-learner situation?" (p. 861). The reason we perhaps seem to belabor the point here about the "either-or" decision is that in the case of the four-channel audio experiment in the current project we have in a sense combined a print-audio format, recognizing the difficulty of either print or audio standing alone. Additionally, and as suggested earlier, the four-channel audio experiment blended the technique of programmed instruction (which is generally thought of as a print medium) with the audio tape medium. With some limitations in mind one can then legitimately draw from the research base which supports both programmed instruction and audio presentations.

It does not seem necessary, however, in this paper to deal with a review of the literature relative to programmed instruction. Even though several of the more accepted constructs of P.I. have recently come under attack by such notables as McKeachie[1], programmed instruction has nevertheless become an accepted method of presenting an organized body of material to potential learners with the predictable expectation that subjects will do at least as well with the method as they would have with others. Incidentally, McKeachie's criticisms were directed toward the Skinnerian approach and the resulting linear program. These arguments lose their punch when programmed instruction is considered from the Crowder-espoused-branching format which was the basis for the arrangement employed in the four-channel audio experiment of the AESP project.

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[1] W. J. McKeachie, "The Decline and Fall of the Laws of Learning," Educational Researcher, Vol. 111, No. 3, (March, 1974), 7-11.

So, instead of trying to shore up the theoretical background for programmed instruction it would seem more appropriate to point out how the addition of the audio-tape medium to the programmed instruction format yielded a potentially more effective presentation-response-feedback mode in the current experiment.

The four-channel audio format enhanced the programmed instruction technique because:

1. The pace of instruction was more controlled. This was particularly important because it lent itself to simulating the real "clinical" situations which occur in reading and career education where often times decisions must be made quickly and on the basis of only hearing symptoms of problems.
2. It helped remove the "cheat factor," which is generally a serious problem in written programmed instruction formats.
3. It allowed the branched explanation to occur immediately and automatically, thus directing the learner's attention to the problem at hand.
4. It provided more experimental accountability in terms of our evaluator's being able to study such things as latency of responses, reselection, etc.
5. It reduced the importance of reading rate and placed more importance on comprehension of the content.
6. And, perhaps the most important item of all, it allowed the simulation of deficiencies, for example, hearing mispronunciations in reading rather than having participants

try to interpret mispronunciations and other miscues on the basis of grammatical markings, which is a highly difficult procedure.

In examining the literature relative to the success of audio presentations, no studies were found which were in the exact format of our four-channel audio experiment. Certainly the work of Postlethwait, et. al. (1970) at Purdue University stands as a well-known example of the use of audio-tapes in close concert with other materials, resource persons, etc., yet more explicit reports of effects of using just audio-tapes to teach have been very scarce.

In reviewing the literature relative to the use of media in post-school instruction, Campeau (1974) cited one study which bears at least some similarity to the four-channel audio format of the present experiment. Stuck and Manatt (1970) investigated the effectiveness of teaching school law concepts to senior class pre-service teachers. In comparing an audio-tutorial treatment (students listened to tape recordings in booths) to live lectures, the audio-tutorial students made significantly better pre-post gain scores. The tapes engaged the listeners in role play situations which required them to draw upon their knowledge of school law in order to make decisions. This "decision context" approach closely paralleled the four-channel audio configuration for reading and career education used in the present study.

In the Levie and Dickey chapter referred to earlier in this paper the authors stated that when literate audiences have been tested over textual materials comparing auditory versus visual presentations, the readers have usually shown superiority over the listeners. However, they also point out that these studies have been biased toward visual presentation due to the fact that test instruments were administered visually rather than auditorily. Their chief explanation for the performance difference was in the greater referability of the print plus the fact that "during the equated time periods in which listening subjects were receiving only one exposure, reading subjects (who were receiving information at a faster rate because reading is faster than speaking) could obtain more than one learning opportunity by re-reading." (p. 868).

The point should also be emphasized that in many cases, including the present four-channel audio experiment, print and audio presentations which on the surface seem the same are really not the same because in speech such things as loudness and inflection may be only approximated by visual differences in typography.

Jameson, Suppes and Wells (1974) in an extensive review of the effectiveness of alternative instructional media, noted two carefully controlled studies by Popham (1961, 1962) where audio-tapes were substituted for live presentations in graduate level courses. Although no significant differences were found in achievement between groups receiving conventional lectures versus audio-tape presentations, in both experiments students had generally favorable attitudes toward instruction with audio-tape.

In summary, the literature search did support the notion that the audio-print media choice in the branched programmed instruction format did match the task and learner characteristics and that increased learning plus favorable attitudes toward the experience could be predicted.

Development of Scripts and Tapes

As stated earlier each four-channel audio script was developed after the video scripts had been finalized for programs in Reading and Career Education. The objective was to use the four-channel audio experiment to reemphasize some of the salient points made in the videos by giving respondents simulated situations and calling for quick decisions. Typically, the scripts were developed by the Four-Channel Script Writers in the following sequence:

1. Reviewed video scripts in Reading or Career Education.
2. Discussed video scripts with their authors to check on emphasis.
3. Prepared draft versions of four-channel scripts.
4. Piloted some of the scripts with graduate classes, especially Reading scripts.
5. Revised scripts as a result of piloting.
6. Reviewed scripts with four-channel Mission Director.
7. Checked with Mission Director who approved scripts and gave them to narrator for practice; Director then arranged recording sessions.
8. Narrator recorded scripts with Mission Director and Audio Technical Director assisting.

Almost all of the questions were done in a situational context, the idea being to give the listener the chance to apply those principles stressed in the video tapes. As in any multiple-choice format the trick was to construct viable alternative choices. When it came to providing feedback (explaining whether choices were correct or incorrect and why) an internal consistency as to the length of responses was a requirement so that participants would not have to sit through "blank time" while more lengthy explanations were being given on other channels.

Evaluation of Four-Channel Audio

Evaluation of the formative variety was carried out as part of the regular sequence of events just described. Other evaluations were conducted by the evaluation experts assigned to the project.

Three instruments were developed and used in connection with evaluating the Four-Channel Audio mission. These are shown in Figure 1.

FIGURE 1--EVALUATION TECHNIQUES APPLIED TO FOUR-CHANNEL AUDIO MISSION

1. USER 4-C AUDIO RATING (UFCAR)
2. ANALYSIS OF ALTERNATIVE SELECTIONS (ITEM ANALYSIS)
3. INSTRUCTOR FEEDBACK QUESTIONNAIRE (PART PERTAINING TO 4-CA)

Table 1 shows the factors used in the UFCAR form by which participants judged the four-channel audio used in the 1974 Summer DPRI (Reading) course. Table 2 shows the corresponding data for the Career Education course. Each factor value was derived from at least three pertinent questions, for example, under "Timing" a question was, "There was adequate time to make each selection before the answer was given".

TABLE 1--UFCAR SUMMARY OF FACTOR MEANS,* DPRI SUMMER COURSE

Sound	4.11
Timing	4.62
Mechanics	4.51
Enjoyment	3.84
Content	4.29

*Based upon 5 (high) - 1 (low) Scale

TABLE 2--UFCAR SUMMARY OF FACTOR MEANS,* CAREER EDUCATION SUMMER COURSE

Sound	4.10
Timing	4.60
Mechanics	4.38
Enjoyment	3.72
Content	3.87

*Based upon 5 (high) - 1 (low) Scale

Both Table 1 and Table 2 reveal that participants were well satisfied with the technical aspects of the four-channel format and enjoyed using it reasonably well.

Table 3 shows a sample of the item analysis conducted for every question used in all 26 four-channel audio programs. Many of the questions did not have as "good" a distribution as shown in this table, for example, it was not uncommon to have upwards of 95% of the participants selecting the correct answer. This high success factor could be viewed as poor item writing yet the emphasis in the four-channel experiment was not intended to be an achievement test but rather an exercise to allow participants to practice decision-making and reinforce recently-acquired principles.

TABLE 3--A SAMPLE OF THE "ANALYSIS OF ALTERNATIVE SELECTIONS" FORMAT AUDIO REVIEW QUESTIONS: (CAREER ED. SUMMER COURSE)

Program	Question	Proportion Selecting Alternative				Number of Students
		1	2	3	4	
9	1	.07	.38	.48*	.06	227
	2	.02	.61*	.08	.29	227
	3	.71*	.24	.04	.01	227
	4	.01	.22	.77*	.00	226

*Correct Response

Tables 4 and 5 show for the reading course and career education course how participants felt about four-channel audio as compared to the rather traditional "class quiz followed by discussion" format. In each subject matter area the four-channel format was a slight favorite.

TABLE 4--FOUR-CHANNEL AUDIO COMPARED TO CLASS QUIZZES FOLLOWED BY A DISCUSSION OF THE ANSWERS (DPRI SUMMER COURSE)

Mean	2.57
S.D.	1.18
N	209

Based on 5-pt. Scale, 1 = unacceptable to 5 = outstanding

TABLE 5--FOUR-CHANNEL AUDIO COMPARED TO CLASS QUIZZES FOLLOWED BY A DISCUSSION OF THE ANSWERS
(CAREER ED. SUMMER COURSE)

Mean	3.41
S.D.	1.12
N	195

Based on 5-pt. Scale, 1 = unacceptable to 5 = outstanding

For those interested in the more definitive data break-down of the four-channel audio experiment, these data are in the project's technical reports.

Conclusions and Recommendations

The four-channel audio experiment of the AESP project was designed to demonstrate satellite capability to utilize four radio channels simultaneously to individualize responses and feedback to pertinent content questions. Early in the project the idea of also presenting video pictures keyed to the four-channel format was discussed. However, because the four-channel signals and the television signals required different uplinks to the ATS-6 satellite it was decided that the coordination of the two signals would be too risky and that the four-channel experiment best be conducted in just the audio format.

In some ways the technical requirements of the four-channel audio system worked to shape the content of the four-channel scripts. For example, script writers tailored explanations of all four alternative selections to closely approximate each other in time (usually 20 to 25 seconds) so that no listener had to hear very much blank time. Obviously, script writers had to begin by writing the correct alternative explanation, time it, and write the other three alternatives to conform to it in terms of time. In some cases this even meant going back and writing a different alternative, one for which an alternative explanation could be written which would "fit".

Another factor which shaped the content of four-channel audio programs was the time allotment of 15 minutes for each program. Usually, four complete question sets (question set-up, alternative choices, alternative explanations) could be done within that period. However, sometimes question sets had to be lengthened or shortened to help conform to time requirements. Of course, short summaries were often used at the end of programs. Additionally, approximately two minutes were used at the beginning of each program to go over instructions for use of the four-channel system and to clarify any special scoring instruments being used at that time. (A back-up scoring system was employed and actually used when technical difficulties were encountered in some of the early programs).

Clearly the four-channel audio experiment of the present study has only scratched the surface in terms of potential uses of this media configuration. For example, the four channels could be used for simultaneous presentation of the same content but in four different languages. Or a general situation could be described but then have information relative to specialized viewpoints, i.e., student, teacher, supervisor and principal, be included.

Future efforts in the four-channel format might profit from this project's constraint of having content so dependent upon the completion of other components. Perhaps four-channel audio should not be assumed as the best or even the most convenient way to reinforce that which preceeds it. It might well be that using the four-channel format in a problem-solving learning sequence (problem-awareness, problem-statement formulation, search for and weighing of alternative solutions, and implementation) is a more viable approach.

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APPENDIX B

Mission 6.0, Information Systems

Sample Input of Texas
CRS Search for Instructional
Materials in Reading

The University of Texas at Austin
SPECIAL EDUCATION INSTRUCTIONAL MATERIALS CENTER
2613 Wichita Street, University Station
Austin, Texas 78712
512/471-3145 TWX 910/874-1335

Send response TO: S. E. I. M. C.
Street Address/P.O. Box Porter Bldg - 730 S. Lime
City/State/Zip Code Lexington, Ky. 40506

INFORMATION RETRIEVAL REQUEST: INSTRUCTIONAL MATERIALS

Note: Please enter information for each individual request on a separate line; examples of terms are listed at the bottom of the request form.

Name or Code	C.A.	M.A.	I.Q. (opt.)	Educ. Level of Material Desired	Content Area/ Cognitive-Perceptual Area	Concepts/ Skills	Format
Marsink				Primary (1,2,3)	Visual Perception	Figure Ground	

Examples to be used in completion of the form:

C.A.: Indicate years and months separated by a period, i.e., 6.3, 8.0, etc.

M.A.: Indicate years and months separated by a period, i.e., 7.3, 12.4, etc.

Comments:

All formats, all materials developed for figure-ground skills, which could help child discriminate visually figure from background

Educational Levels:

Early Childhood	Birth-47 months
Prereadiness	48-59 months
Readiness	60-71 months
Grade 1	
Grade 1-1 (First Half)	
Grade 1-2 (Second Half)	
Grade 2	
Grade 2-1 (First Half)	
Grade 2-2 (Second Half)	
Grade 3	
Grade 3-1 (First Half)	
Grade 3-2 (Second Half)	
Grade 4	
Grade 5, etc., through Grade 12	

Content Areas:
- Reading
- Spelling
- Mathematics
- Speech Therapy
- Etc.

Cognitive-Perceptual Area:
- Auditory Discrimination
- Visual Perception
- Tactual
- Etc.

Concepts/Skills:
- Word-attack
- Addition
- Follow Directions
- Etc.

Format:
- Textbooks
- Teacher Resources
- High Interest-Low Vocabulary
- Practical
- Games
- Etc.

IRP 71-3

Sample of Search for Reading Materials
Using Select-Ed Prescriptive
Materials Retrieval System

ADAPTED SELECT-ED PRESCRIPTIVE MATERIALS RETRIEVAL SYSTEM REQUEST FORM (ASERF)

INSTRUCTIONS:
The requestor specifies on this form the parameters for each search in the system, and the site delegate punches the request on tapes that are fed to the RCC via TWX. The circled numbers indicate the order in which the items are transmitted via TWX to the RCC for the retrieval of information.

Appalachian Education Satellite Project
Resource Coordinating Center
Evaluation Component
306 Frazee Hall, University of Kentucky
Lexington, Kentucky

A. IDENTIFYING INFORMATION

① Message No. 0 1/ _ _/ _ _ _ _ (to be filled in by TWX operator)
② Site Location ____________
③ Requestor's Name ____________
④ Requestor's Client No. ________
⑤ Child's First Name ____________ (Fictitious, if desired)
⑥ Child's Chronological Age ________ (As of last birthday)

B. RETRIEVAL INFORMATION

	Descriptor Number	Descriptor Name
⑦ SPECIFIC CONTENT: (see section #1 in the Descriptor Dictionary)*	____________ Code number of the skill or task to be taught	____________ Name of the skill or task to be taught
⑧ FORMAT: (see section #2 in the Descriptor Dictionary)*	____________ Code number of format (games, workbooks, etc.)	____________ Name of format used (games, workbooks, etc.)
⑨ GRADE LEVEL: (see section #3 in the Descriptor Dictionary)*	____________ Code number for the child's functioning level (not necessarily child's grade in school)	____________ Name of the functioning grade level (that is, the child's functioning level, but not necessarily the child's grade in school)

- -

⑩ COMMENTS: Describe the child's academic problem as completely as possible.

____

____

Note: Sometimes the Select-Ed System has nothing available for one or more of the three descriptors you have listed above. In case this occurs, please use the back of this form to list the alternative descriptors you feel would be appropriate.

*SELECT-ED EDUCATIONAL DESCRIPTOR DICTIONARY FOR PRESCRIPTIVE MATERIALS RETRIEVAL SYSTEM

	Descriptor Number	Descriptor Name
⑪ **PROBLEM:** (see section #1 of the Descriptor Dictionary)*	Code number of the skill or task to be taught	Name of the skill or task to be taught
⑫ **FORMAT:** (see section #2 of the Descriptor Dictionary)*	Code number of format (games, workbooks, etc.)	Name of format used (games, workbooks, etc.)
⑬ **GRADE LEVEL:** (see section #3 in the Descriptor Dictionary)*	Code number for the child's functioning level (not necessarily child's grade in school)	Name of the functioning grade level (that is, the child's functioning level, but not necessarily the child's grade in school)

---

*SELECT-ED EDUCATIONAL DESCRIPTOR DICTIONARY FOR PRESCRIPTIVE MATERIALS RETRIEVAL SYSTEM

SELEC ED

PRESCRIPTIVE MATERIALS RETRI AL SYSTEM QUESTION GENERATOR

NAME: Morsink

REQUEST NUMBER:

PROBLEM (Skill or task to be taught): figure-ground visual perception

FORMAT (GAME, WORKBOOK): all

GRADE LEVEL or C.A.: primary

READING LEVEL (Use only when selecting material for high interest or supplemental reading material--literature.)

Descriptor:	Figure Ground (Visual or Auditory	#:	291
Descriptor:		#:	—
Descriptor:	Grade One Grade Two Grade Three	#:	314 315 316
Descriptor:		#:	

****

OPTIONAL:

INPUT (Stimulus characteristics-how the student will receive or use material): visual

OUTPUT (Response characteristics-how the student will respond or answer the material):

PROCESS (How the student appears to learn--of major use if planning to use the ITPA):

MAJOR AREA (Use only for general searches):

Descriptor:	Visual Input	#:	404
Descriptor:		#:	
Descriptor:		#:	
Descriptor:		#:	

****

COMMENTS: (DAS - 312, 313, 1312)

RMAT.............Duplicated Worksheet

NG LEVEL..Pre-reading

T...................$3.50

DOCUMENT NUMBER 312

SHELF NUMBER [illegible]

DESCRIPTIVE ANALYSIS SHEET

E: *Visual Readiness Skills* (Level 1)

HOR: Maney, Ethel

ISHER: Continental Press

YRIGHT: 1964

RATIVE: The material is designed to provide non-reading activities to develop the beginning stages of certain visual skills for success in word retention, writing, and spelling. It is designed as developmental material for the preschool and immature beginner. It may be used as remedial material for older students. Four plates develop eye-hand coordination through drawing within limits and tracing a pattern. Visualization by solving mazes are covered on two plates; pattern completion on five plates is developed by completing block letters, completing abstract designs and completing capital letters. Part-whole relationships are developed through exercises of relating space and meaning and space and form. Visual discrimination uses matched picture objects, matched capital letters, matched lower case letters and matched mixed letters. Figure-ground relationships on five plates, is developed by noting detail in design. Five plates are devoted to developing visual-memory by recalling symbols presented. The material is presented on twenty four plates. The teacher's guide gives instructions for use. The child has various additional activities suggested to supplement learnings on these exercises. The teacher is to direct each activity, give guidance during the activity, and help the child evaluate his work. The illustrations are simple black and white drawings. The print is large block, black type. The teacher's guide gives purposes, teaching procedures, evaluations and suggestions for each activity.

WITHIN SERIES:

Visual Readiness Skills (Level 1 & 2)

FORMAT............ Duplicated Worksheets

DOCUMENT NUMBER 313

READING LEVEL.. Pre-reading

SHELF NUMBER [illegible]

COST................. $3.50

DESCRIPTIVE ANALYSIS SHEET

TITLE: *Visual Readiness Skills*, (Level 2)

AUTHOR: Maney, Ethel

PUBLISHER: Continental Press

COPYRIGHT: 1964

NARRATIVE: These materials are designed to provide non-reading activities to develop the beginning stages of visual skills for success in word retention, and writing. It is designed as developmental material for the preschool and immature beginner. It may be used as remedial material for older students who have severe disability. Pattern completion is developed on 4 plates by completing block letters and completing abstract designs. Visual discrimination by noting reversals, matching capital letters and matching lower case letters are on 7 plates. On two plates, visualization is worked on by solving mazes. Part-whole relationships on four plates are developed by relating space and form. Pattern copying, on 2 plates involves repeating a pattern. Figure ground relationships are dealt with on one plate by noting detail in design. Visual memory by recalling symbols presented is developed on 2 plates. The material is presented on twenty-four plates. The teacher's guide gives instructions for use. The child has various additional activities suggested to supplement learning on these exercises. The teacher is to direct each activity, give guidance during the activity and help the child evaluate his work. The illustrations are simple black and white drawings. The print is large block, black type. The teacher's guide gives purposes, teaching procedures, evaluations and suggestions for each activity.

TITLES WITHIN SERIES:

Visual Readiness Skills, (Level 1 & 2)

FORMAT............ Workbook

DOCUMENT NUMBER 1312

READING LEVEL..

SHELF NUMBER [illegible]

COST................. $7.20

70-0012-01-01

DESCRIPTIVE ANALYSIS SHEET

TITLE: The Developmental Program in Visual Perception

AUTHOR: Frostig, Marianne

PUBLISHER: Follett Publ. Co.

COPYRIGHT: 1966

NARRATIVE: The Developmental Program in Visual Perception consists of three books: Beginning Picture and Patterns, Intermediate Pictures and Patterns, and Advanced Pictures and Patterns.

This program is designed to train young children in visual perceptual skills in kindergarten and first grade.

The total program consists of physical exercises, suggestions for three-dimensional activities, and work sheet exercises.

Beginning Pictures and Patterns focuses on four perceptual skills: visual-motor coordination, figure-ground perception, perceptual constancy, perception of position in space. Intermediate Pictures and Patterns includes work on the above four plus perception of spatial relationships.

The worksheets for each area are presented in the order in which they are to be used. Since the directions for each work sheet are marked with a letter code, (ie. vm means Visual motor coordination,) it is easy for the teacher to determine areas of visual perception to be emphasized for each child. The teacher's guide is a separate book containing page-by-page suggestions and directions and should be followed carefully. Quite a bit of teacher time could be involved in directing the visual perception program.

The exercises specifically give practice on the following activities: finding likenesses and differences, body image, copying, comparing sizes, directionality, geometric figures, shape constancy and comparison, reversals and rotations, interesting lines, drawing with and without guidelines, finding shortest path to a line, position of details, figure completion, tracing, finding hidden figures, figure ground discrimination, overlapping materials, completion of sequences, figure assembly, recall of sequences, assembly of parts, coloring, recall of temporal sequences and drawing of arcs.

ITLES WITHIN SERIES:

Beginning Pictures and Patterns
Intermediate Pictures and Patterns
Advanced Pictures and Patterns

Contents

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KENTUCKY SPECIAL EDUCATION MATERIALS INFORMATION SYSTEM INSTRUCTIONS*

INTRODUCTION

The Information System was designed to provide information about child-use media and materials for helping educational personnel identify materials for teaching children. The information is intended to help the user make preliminary decisions as to which media and materials should be located and examined in further detail.

The system is to be used by authorized personnel as a tool in providing consultation services to teachers and other educational personnel. The restriction is intended to help ensure that the computer printout will be reviewed by someone who is knowledgeable of the system limitations and who can provide the client with information and expertise which go beyond that of the computer data base.

ACCESSING THE SYSTEM:

Descriptor Codes: One of the first steps in submitting a request is to identify the descriptor codes that represent the kinds of media and materials on which information is being requested by a client. The list of descriptor terms and codes to be used in requesting information from the "Kentucky" System (see list of descriptor terms) is grouped into three major categories: (a) the type of skill(s) to be taught with the materials, (b) the approximate educational level of student performance at which the skill is to be taught, and (c) the desired format of the materials. Each request must specify at least one skill code, one level code, and one format code in order to narrow the request to a reasonably specific subgroup of materials. (A fourth category of descriptor terms is referred to as "miscellaneous." Specification of miscellaneous term(s) is optional.)

---

*adapted for use by Appalachian Education Satellite Project

Request Form: The descriptor codes for which materials information is desired should be written on the Request Form, along with the client identification information and the maximum number of responses requested as shown on the attached sample.

Computer Printout: The media and materials information provided on the computer output for each request will be of three general types:

A. Bibliographic Information: The first type of information will include call number* of the item, author, title, publisher, publication date, etc., as found in a card catalog.

B. Abstract Information: The second type of information will be a brief description of the materials.

C. Descriptor Information: The last type of information provided for each item are all the descriptor terms that have been assigned to the item. The full list of descriptor terms assigned to the material indicates the range of capabilities of the material beyond those few specified in the request.

Search Options: There are several options available for specifying the type of search that would be appropriate for a client's needs:

---

* as assigned by the University of Kentucky Regional Special Education Instructional Materials Center; not Dewey or LC classification.

A. "Single" Request, One Code Per Category: This type of search is exemplified by request #1 on the sample Request Form. A single request for client Hera Braidy is indicated, and the minimum of one code is specified for Skill, Level, and Format. The computer printout for Hera Braidy will list up to 10 responses (as indicated in the last column on the Request Form) and each response will include the descriptor terms.

B. "Or" Type Request, One Code Per Category: The second and third requests on the sample Request Form are for the same person. Also, note that both requests ask for information on materials for teaching Comprehension (S16) to Primary-Level (L15) children. The difference between the two requests in this particular example, is that one request specifies that the format of presentation be Workbooks (F30) and that the other request specifies that the format be Worktexts (F32). The combined information in the computer printouts for both requests would be Primary-Level Comprehension materials in Workbook OR Worktext format. In more general terms, clients needing materials which include descriptor terms "X", OR "Y", OR "Z", etc. are satisfied by entering separate requests on different lines. (Note that ditto marks may be used to save writing.)

C. "And" Type Request, Multiple Codes Per Category. The fourth request on the sample Request Form asks for information on materials that are useful for teaching Reading Comprehension Skills to Intermediate-Level children. A material must employ BOTH a Book (F4) format of presentation AND a Workbook (F30) format of presentation before the material will be retrieved. Thus, the "and" type request is more restrictive as fewer materials in the data base will have two or more of the skill, level, or format terms specified in the request.

D. Principles for Extending Search Options: Combinations of the above search options may be used as desired. The general principles are as follows:

1. Simple Search: Only one descriptor code is specified for each category -- Skill, Level, Format, Misc. (if used) -- on the Request Form. (See request #1 of the Sample Form.)

2. "OR" Options: Subsequent requests for the same person can be written where one or more descriptor categories are systematically varied. The combined printout will provide information on materials having special characteristics X, OR characteristics Y, OR characteristics Z, etc. in addition to those common characteristics specified in all of the requests. (See requests #2 and #3 of sample form.)

3. "AND" Options: Information that is retrieved must satisfy all the descriptor codes specified for a single request, i.e., all codes that are written on a single line of the Request Form must also be assigned to the item before it will be retrieved. (See request #4 of Sample Form.)

(a) A maximum of 14 descriptor codes may be specified per request.

(b) The use of fewer descriptor codes per request will *increase* the number of materials in the data base which satisfy the request, while increasing the number of descriptor codes for a request will *decrease* the number of items that will be retrieved (but the information will be more specific in the latter case).

(c) At least one descriptor code must be specified for skill, level, and format. (A practical requirement to limit the number of "hits" and to help make the information relatively specific.)

Instruction Summary

1. After considering the problem, refer to the lists of Descriptor Terms.

2. Select the Skill, Level, Format (and Miscellaneous -- if applicable) terms that apply to your problem. You must provide at least one term from the Skill, Level, and Format categories.

3. List the terms in the appropriate columns on the request form.

4. Remember the search options:

    a. List terms to be "OR"ed on separate lines

    b. List terms to be "AND"ed on the same line and in the appropriate column (more than one term can be listed in the same column on the same line)

    (Refer to the Sample Form for examples.)

5. Indicate the maximum number of responses that you want. REMEMBER: this does not guarantee that you will get the indicated number of responses or that you will get any at all; this merely imposes an upper limit on the number of responses to be printed out.

6. Be sure that the identifying information requested on the form is supplied. This includes:

    a. your CLIENT NUMBER

    b. your last name

    c. your first name or initials

7. The Site Number should be on the form. Your site coordinator will supply this information.

DESCRIPTOR TERMS

DESCRIPTOR TERMS

Skill

S 2	Alphabetizing
S 6	Auditory Perception
S 7	Auditory Training
S 10	Blending
S 16	Comprehension
S 18	Consonants
S 23	Digraphs
S 24	Diphthongs
S 45	Language Development
S 49	Letter Recognition
S 67	Phonics
S 69	Prefixes
S 72	Readiness
S 73	Reading
S 74	Reading (recreational)
S 75	Reading Comprehension
S 95	Suffixes
~~S 96~~	~~Summarizing~~
S101	Visual Perception
S102	Vocabulary
S104	Vowels
S105	Word Attack
S 97	Syllabication

Level

L 1	Grade 1
L 2	Grade 2
L 3	Grade 3
L 4	Grade 4
L 5	Grade 5
L 6	Grade 6
L 7	Grade 7
L 8	Grade 8
L 9	Grade 9
L 10	Grade 10
L 11	Grade 11
L 12	Grade 12
L 13	Early Childhood;
L 14	Kindergarten
L 15	Primary (Grades 1-3)
L 16	Intermediate (Grades 4-6)
L 17	Jr. High (Grades 7-9)
L 18	Sr. High (Grades 10-12)
L 19	Multilevel
L 20	Nongraded (K-12)
L 21	Readiness

Format

F 1	Activity Cards
F 2	Audio Flashcards
F 3	Audio Tapes
F 4	Book
F 5	Captioned Films
F 6	Captioned Filmstrips
F 7	Charts
F 8	Duplicating Masters
F 9	Film Cartridges
F 10	Films
F 11	Filmslips
F 12	Filmstrips
F 13	Flash Cards
F 14	Games
F 15	Kits
F 16	Low Vision Aids
F 17	Manipulative Materials
F 18	Manuals
F 19	Maps and Globes
F 20	Microfiche
F 21	Multimedia Instruction
F 22	Phonograph Records
F 23	Programmed Materials
F 24	Slides
F 25	Stencils
F 26	Tachistoscopes
F 27	Teaching Machines
F 28	Three dimensional aids
F 29	Transparencies
F 30	Workbooks
F 31	Worksheets
F 32	Worktexts

Miscellaneous

M 1	High interest Low Vocab.
M 2	Teacher made materials

KENTUCKY SPECIAL EDUCATION MATERIALS INFORMATION SYSTEM

REQUEST FORM

adapted for use by .

APPALACHIAN EDUCATION SATELLITE PROJECT

Date: ___/___/___
mo day year

Site Number: _____

Completed by: ______________ ____________

	Client Number	Last Name	First Name	Descriptor Codes (Use List of Terms)				MAXIMUM # OF RESPONSES
				SKILL	LEVEL	FORMAT	MISC.	
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								

KENTUCKY SPECIAL EDUCATION MATERIALS INFORMATION SYSTEM

REQUEST FORM

adapted for use by

APPALACHIAN EDUCATION SATELLITE PROJECT

Date: 12 / 16 / 74
mo / day / year

Site Number: 1

Completed by: ALICE MARTINSON

	Client Number	Last Name	First Name	Descriptor Codes (Use List of Terms)				MAXIMUM # OF RESPONSES
				SKILL	LEVEL	FORMAT	MISC.	
1.	1296	BRAIDY	HERA	S16	L4	F14		10
2.	1194	CODY	BILL	S16	L15	F30		5
3.	"	"	"	"	"	F32		5
4.	4137	SCOTT	RANDOLPH	S75	L16	F4, F30		15
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								

KENTUCKY SPECIAL EDUCATION
MATERIALS INFORMATION SYSTEM

D. Janssen
G. Mack
R. Sigafus

Instruction Manual

Developed by the Mid-East Area Learning
Resource Center at the University of Kentucky

KENTUCKY SPECIAL EDUCATION MATERIALS INFORMATION SYSTEM

REQUEST FORM

adapted for use by

APPALACHIAN EDUCATION SATELLITE PROJECT

Date: ____/____/____
mo/ day/ year

Site Number: ______

Completed by: ____________________

	Client Number	Last Name	First Name	Descriptor Codes (Use List of Terms)				MAXIMUM # OF RESPONSES
				SKILL	LEVEL	FORMAT	MISC.	
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								

Sample from Procedures Manual (Information Systems Section) Developed for All RCC-RESA Communications

(Procedure #)

Responsibility		Action
Agency	1.	notes that procedure as written in procedures manual does not function effectively for their particular situation
	2.	states problem clearly, in writing
	3.	sends written statement to the RCC Information Component with a copy to the RCC Evaluation Component
RCC	4.	ascertains that problem is clearly stated and is valid; if not, contacts the agency for further clarification
	5.	surveys all other agencies to see if problem has occurred elsewhere
All agencies	6.	responds to survey
RCC	7.	if problem occurs at other agencies, procedure reviewed for weakness
	8.	revises procedure
	9.	circulates revision to all agencies
All agencies	10.	adds revision to manual, removes obsolete pages
RCC	11.	if problem is unique to one agency, confers with that agency to find cause of problem
	12.	suggests solution
	13.	if solution entails a procedure unique to that agency, an addendum will be made to the procedures manual, setting forth that particular procedure for that agency
	14.	circulates addendum to all other agencies
All agencies	15.	adds addenda to their procedures manuals

SUBJECT: Revision of Procedures Manual

PURPOSE: to establish procedures to be followed when a revision in the procedures manual becomes necessary for the efficient operation and maintenance of communication between project agencies

FUNCTIONS AFFECTED: RESAs, RCC, Information Systems Information Specialist

DEFINITIONS: project agencies: all RESA's (main and ancillary)
all RCC components

III. THE RESAs

III. The RESAs

The backbone of this project was the network of sites located throughout Appalachia. The Regional Education Service Agencies (RESAs) provided the outreach activities necessary for the success of AESP.

Included in this section are reports from the five main sites that participated in the Project. Once again, as stated in the previous section, it was the desire of the ARC to allow as much latitude to these local agencies as was practicable. These reports will indicate this.

In addition, individual differences in site locations will be much more readily apparent since little or no editing was performed with a view toward imposing the ARC conception of the project on the local coordinators.

TARESA - ALABAMA

I. INSTRUCTIONAL USEFULNESS OF EQUIPMENT

The development and demonstration of the instructional usefulness of all technical equipment such as the satellite broadcasting and receiving equipment was carried out during the latter phase of the summer courses in reading and career education and during the fall course in career education and the spring course in reading.

All AESP personnel, including the project secretary, attended various class sessions and were trained to use all of the site equipment. This involved simpler techniques such as turning the TV and receiver on through operating the teletype and VHF transmitter-receiver.

All equipment was kept in good operational condition due, in the main, to the diligence of the project engineer, James Freeman.

II. MATERIALS FOR TRAINING

This RESA made all of the project materials available to all teachers throughout the course offerings by placing all reference materials on special loan to the site media centers.

At the end of the Phase III contract, purchases of two sets of reading video casettes were made and one set put on special loan to Alabama A&M University for continuous course offerings.

The other set will be used to conduct in-service training programs at area schools.

III. EXPAND THE KNOWLEDGE BASE

The knowledge base in career education and reading was expanded by the interchange of ideas and classroom application by the two hundred and forty teachers directly involved in the course. In addition, the university consultants for the program also brought new ideas from the courses to their university and also exchanged ideas with the teacher participants.

Mrs. Bernice Richardson of Alabama A&M University, acted as consultant for the course in career education. Dr. Ruby Nell (Cummings) Nicholson also of Alabama A&M University, acted as consultant for the reading courses.

IV. EFFECTIVENESS OF COOPERATION

The effectiveness of cooperating multi-state and multi-county educational programs through the AESP's coordination of personnel and services was demonstrated by the overall success of the courses in reading and career education. These courses were offered throughout Appalachia and in our particular area, north Alabama. Multi-county use of the course work and materials was demonstrated by the eight different school systems supporting our project in the fact that over two hundred teachers participated in the courses.

Twenty-eight agencies, representative of those utilized by the TARESA Appalachian Education Satellite Project, are listed in the next two pages.

EFFECTIVENESS OF COOPERATING MULTI-EDUCATIONAL PROGRAMS

AGENCY	SERVICES PROVIDED
Alabama A&M University	Provided credit for teacher/ participants
Alabama State Department of Education	Consulting
Appalachian Regional Commission	Consulting, funding and materials
Arab City Board of Education	Participated in program
Athens City Board of Education	Participated in program
Fort Payne City Board of Education	Participated in program
Guntersville City Board of Education	Participated in program
Huntsville Educational Television	Consulting, promotion
Jackson County Board of Education	Participated in program
Jacksonville State University	Provided credit for teachers/ participants
Limestone County Board of Education	Participated in program
Madison County Board of Education	Participated in program
Madison County Technical School	Provided space and utilities for classroom
Marshall County Board of Education	Participated in program
Marshall County Technical School	Provided space, utilities for classroom
Newspapers	Promotion, announcements
Northeast Alabama State Junior College	Provided credit for teachers/ participants, provided space and utilities for classroom
Radio Stations	Promotion, announcements
TARESA Adult Education Program	Promotion
TARESA Home Start Program	Promotion
TARESA Information Needed for Occupational Entry	Promotion
TARESA Special Education	Promotion

AGENCY	SERVICES PROVIDED
TARESA Talent Search Program	Promotion
Television Stations (National and Local)	Promotion and announcements
Tennessee Technological University	Consulting, evaluation
Turim Road School (New York)	Consulting, evaluation
University of Alabama in Huntsville	Consulting
University of Kentucky	Consulting, credit for teacher/ participant and materials

V. GRADUATE AND IN-SERVICE CREDIT

Arrangements for accreditation of the summer and fall courses offered in reading and career education were a continuation of the earlier procedure detailed in the Phase II final report and outlined below:

Options for obtaining credit:

OPTION 1: Graduate credit through the University of Kentucky with no fees.

OPTION 2: Graduate credit through Jacksonville State University at their usual fee of $75 for three semester hours.

OPTION 3: Graduate credit through Alabama A&M University with a nominal fee of $5 for the first course taken and $75 for additional courses taken through the AESP course. This is A&M's usual fee for three semester hours of graduate credit.

In detail, accreditation for the fall and winter were arranged at Jacksonville State University through Dr. James Reaves, Dean of the Graduate School; and Charles Nickel, Appalachian Education Satellite Project.

The meeting concerning the fall course in career education was held on August 21, 1974.

The meeting for the spring course in reading was held on November 13, 1974.

Accreditation was arranged at Alabama A&M University through Dr. Leon Bonner, Dean of Graduate Studies and Charles Nickel of the Appalachian Education Satellite Project.

The meeting concerning the fall course was held on August 19, 1974, and the meeting for the spring course was held on November 11, 1974.

VI. ASSIST CLASSROOM TEACHERS

Teachers were assisted in applying principals and concepts of career education and reading both by members of the AESP staff and by the university consultants. In particular staff members worked with area teachers in their classrooms to see the course procedures as applied to the students.

VII. TEACHERS TRAINING TEACHERS

Over two hundred teachers who have participated in or completed the AESP courses in reading and career education have in turn, helped to conduct and participate in in-service programs in their own schools. More importantly, they have encouraged, by example, their fellow teachers to participate and utilize ideas and materials from the courses. It was due to this kind of encouragement and "word of mouth" advertisement that eighty-five teachers applied for the spring course in reading as detailed in Section XII.

Teacher usage and enthusiasm for the reading course in the school systems surrounding the local Athens School System directly caused the Athens Superintendent of Education to open the AESP courses to his teachers. In addition, this superintendent strongly encouraged his teachers to take the courses when initially he had been opposed to them as just a repeat of local available courses.

Actual teacher usage of course materials was amply demonstrated by the CBS news coverage of the AESP in Alabama in the fall of 1974. In this documentary they followed a teacher, Mr. Phil Thrower, out of the site classroom at Marshall County Technical School in Guntersville and into the teacher's class at Arab Elementary School in Arab, Alabama.

VIII. STAFF DEVELOPMENT IN LOCAL SCHOOLS

The staff development plans of the local school districts were directly involved in the AESP course offerings as course details were related to each of the superintendents of education of the school districts served by the TARESA. Each superintendent of education had to be convinced of the value of the AESP course to his teachers and pupils. The superintendent then took the courses into account for this teachers' staff development and up-grading.

IX. PARTICIPATING UNIVERSITIES

In our area the Alabama A&M University was most cooperative to our program. In particular, the Dean of their Graduate School, Dr. Leon Bonner, in conjunction with Dr. Nicholson, agreed to continue the project by offering the AESP reading course during the summer of 1975.

Their students are graded and monitored by Dr. Nicholson and pay full tuition and costs of ancillary materials.

X. ACCEPTANCE OF COURSES

In our area, both Alabama A&M University and Jacksonville State University have accepted courses developed and organized by the University of Kentucky. Students have been registering directly for the AESP courses at these two institutions. In addition, Auburn University and the University of Alabama have also accepted transfer credit for the AESP courses.

XI. FORMAL CONSORTIUM

Alabama A&M University has a television studio and excellent facilities for course development and software similar to the needs of the AESP. This institution has been very cooperative and could form a local base for an RCC under the direction of the senior RCC at the University of Kentucky.

XII. MONITOR LOCAL SITES

The local sites in the TARESA area were visited during class sessions at least every other week. Communication between the TARESA staff and the site monitors and teletype operators were aided by the availability of a local WATS line. Communication was also strengthened by our office by a mailing of a weekly newsletter on attendance, visitors, etc. to each site monitor.

Teachers could easily pose questions to the site monitor, university consultant, or local project director.

Site locations are described below.

School Systems Covered by Site	Name of Site
Athens City Limestone County Madison County	Madison County Technical School
Ft. Payne City Jackson County	Northeast Ala. State Junior College
Marshall County Guntersville City Arab City	Marshall County Technical School

Contact people at these sites:

Madison County Technical School	Mr. Harold Birchfield, Supervisor
Marshall County Technical School	Mr. Lester Landers, Supervisor
Northeast Ala. State Junior College	Dr. Charles Pendley, Dean of Instruction

XIII. CONSULTANT REPORTS

The two university consultants for the AESP project were both on the faculty of Alabama A&M University. Mrs. Bernice Richardson acted as consultant for the courses in career education. Mrs. Richardson visited each of the sites on alternate class days and was extremely helpful to the students in answering their questions. She was especially helpful in explaining the usage of the AIM and ARM and CBRU information retreival systems.

Dr. Nell (Cummings) Nicholson acted as consultant for the reading courses and also visited each of the sites on alternate days. Dr. Nicholson answered teacher questions, received all course materials, and greatly helped the program by carrying her enthusiasm and good will to the participants.

XIV. LONG-RANGE PLANNING CHARTS

Long-range planning charts were utilized by our office to depict all major project events and the time frames in which they were to be accomplished as specified by ARC.

XV. COURSE EVALUATION

Our office assisted the RCC in collecting all data necessary for course evaluation in the form of examinations and survey materials. In addition, weekly, biweekly, monthly, and quarterly reports were kept by this office in order to maintain a process of record keeping essential to overall project evaluation.

XVI. DISTRIBUTION OF COURSE SOFTWARE

Efforts to distribute course software in our area initially were limited to allowing participating universities to use video cassette tapes that were on hand for contingency purposes.

Toward the end of the spring course our agency purchased two sets of reading course video cassettes and auxillary materials. One complete set was placed on loan to Alabama A&M University and is presently being used to conduct a summer course in reading for twenty-five students. The other set is on file at our agency for in-service training usage in our area.

Information on course software will be distributed to all local institutions in the near future.

XVII. RECRUITMENT FOR FALL AND WINTER (SPRING)

Recruitment for the fall and winter courses was successful and in general, followed the procedure outlined for selection of participating teachers in the Phase II final report.

Details of the enrollment for these courses are included in the appendices listed below. It should be noted that the winter course in reading had to be expanded to seventy participants as eighty-five teachers applied and there were initially provisions for only sixty teachers.

XVIII. OTHER ASSIGNMENTS

Our agency also completed other assignments requested by the ARC and RCC. A few of these are listed below.

1. Participation in AESP - Satellite News Conference on August 23, 1974.
2. Participation in a CBS news report on the AESP on September 17-18, 1974.
3. Visitation by University of Kentucky (UK) staff on career education on October 14-15, 1974.

4. Visitation by UK staff led by Dr. Eberwin for filming interviews on October 17-18, 1974.
5. Arrange for teachers to visit University of Kentucky for AESP seminars on October 29, 1974 and November 5, 1974.
6. Visitation by UK staff for filming in local schools November 19, 20, and 21, 1974.
7. Twenty-five letters of support sent to ARC on February 12, 1975.
8. Arrange for visitation by Dr. Gus Root of Syracuse evaluation staff on April 14-15, 1975.

Maryland RESA - West Virginia RESA VIII

In July, 1974, the AESP Program courses became operational and the major activities of the AESP local staff were to actually conduct the summer classes, check equipment operation, assist participants in securing needed reference materials, keep in touch with the R.C.C. staff concerning program problems, and maintain contact with local colleges granting credit for the courses. While some planning was needed for the fall and spring semester courses, the main responsibilities for these programs centered around disseminating information about the courses to all eligible teachers in the RESA areas, recruitment, participant selection, securing resource material, and college consultant services; and again conduct the classes, check operations, work with the participants, keep in touch with the R.C.C., and continue the contacts with the participating colleges.

The AESP staff assisted with the R.C.C. follow-up of the summer courses, met with school systems staffs concerning additional material being requested by the summer participants, visited teachers to observe class activities that were an outgrowth of the course, and met with the teachers of Allegany County, Maryland who were enrolled in the summer courses on one of the county's professional days.

In the Spring of 1975, the advisory committee was approached by the AESP staff concerning offering the DPRI courses by video tape during the Summer of 1975. The RESA school systems indicated a desire for the courses and approved the program. The local colleges again cooperated by granting tuition-free credit. Information about these summer courses (one K-3, the 4-8) was distributed, recruitment and selection of the participants followed, materials were ordered, and arrangements were made with Dr. Lowell Eberwine to visit the class for a live seminar during the summer.

The class began on June 23, 1975. In the meantime, the staff participated in meeting with other AESP staffs concerning the extension of the project to January 31, 1976. This was later extended further to June 30, 1976, and the staff anticipates participating in the plans for AESP 1976-77.

Detail of the Major Activities

1. The AESP courses continued to be an integral part of the total program of both the Maryland RESA and the West Virginia RESA VIII.
2. The same staff continued to operate the AESP program during Phase III of the project, July 1, 1974-June 30, 1975.

Cumberland

Director	William M. Brish
Assistant Director	Edgar W. Reynolds
Secretary	Mary Jo Williams

West Virginia VIII (Martinsburg)

Research Assistant	Frank C. Peto
Secretarial Help	(¼ time)

3. The advisory committee continued its monthly meetings as a separate part of the regular RESA meetings.

4. Publicity continued through newspaper articles. A recognition day for the participants who completed the course featured a news conference in Cumberland and a special program with Dr. Von Braun as the speaker. Certificates were awarded.

5. Contacts were maintained with Frostburg State College and West Virginia University. Frostburg was represented on the Career Education program by a staff member, Dr. Ron Clifton. Seventy-three teachers received credit from Frostburg, 56 from West Virginia University, and 94 from the University of Kentucky.

6. Dissemination about the courses, recruitment, and participant selection followed the procedures developed and used in Phase II of the project. Full quotas of teachers were enlisted.

7. Texts, resource materials, and supplies were checked as received and the local RESA's supplied some additional materials for each teacher.

8. The local staff kept the R.C.C. informed concerning problems growing out of the lessons and promptly mailed to the University of Kentucky the evaluation and other course materials of the students.

9. The staff submitted a monthly progress report to the ARC in Washington, DC. This report showed the cumulative progress on the program objectives as well as a monthly cumulative financial report.

10. There was no breakdown of the on-site television or audio equipment during any of the four courses. Some minor repairs were needed for the teletype. The equipment not only didn't breakdown, but gave a high quality output of all signals. No classes were lost because the local equipment failed to operate. Nevertheless, the equipment was check regularly by Mr. Reynolds, who participated in all the circuit tests conducted via VHF by the University of Kentucky.

11. Mr. Frank Peto of the local AESP staff attended the training session for the spring DPRI course held in Lexington, Kentucky, in January, 1975.

12. The local AESP staff attended project-wide meetings in Washington, DC and Lexington, Kentucky.

13. A follow-up study of the students of the summer programs in career education and reading was conducted to determine the degree of involvement demonstrated by the course participants in implementing new ideas gained through AESP studies. The University of Kentucky distributed questionnaires to RESA for further distribution and collection. Questionnaires returned to RESA were forwarded to the University for evaluation and compilation of data.

14. Teachers involved in the summer program initiated exemplary programs during the following school term.

Mrs. Martha Femi expanded on her efforts through the summer career education program to consider an effective school project. The result of her work was a school wide program in career education. A photo essay of the accomplishments realized through Mrs. Femi's efforts was recorded by Dr. William Brish and Edgar Reynolds as they visited with the faculty and students of Parkside Elementary School. An on-site evaluation of the two visitors rated the program a glowing success.

A similar enthusiasm was shared beyond the classroom to reach deep into the community surrounding the school. A team of teachers joined together to present a billboard on career education to demonstrate a need for community concern. The stimulus was well received.

15. The success of the AESP courses were clearly evidenced by the unsolicited demand of teachers in all the school systems of the RESA's for courses during the Summer of 1975, and the approval and support for the courses by the various school administrations. More teachers than could be served in the two courses applied, which required school systems to be selective.

CLINCH-POWELL EDUCATIONAL COOPERATIVE
TENNESSEE

INTRODUCTION

Phase III (July 1, 1974-June 30, 1975) was a period of fruition for the ATS-6 RESA Triangle in Tennessee. At the beginning of the project, we encountered some problems typical in the crank-up of a new program. Because of technical problems, the Johnson City site was not fully operational until July 18, 1974. This resulted in a drastic dropout of students in one of our classes - the career education class. The other two sites, Coalfield & LaFollette, were fully operational the first day of class. Seventy-eight of the eighty participants of these two sites completed the courses.

Recruitment for the fall course was no problem because word of the initial success of the courses offered through the project had spread among the teachers in our region. We were forced to turn teachers away from all three sites in Tennessee for the fall career education course. Several of the participants in the fall career education class at Johnson City and LaFollette decided to take credit through the University of Tennessee.

The spring reading course provided AESP with a unique opportunity. This course was an expansion and a revision of the summer reading program. The evaluation and recommendation of the participants in the summer reading course were taken into account when planning the spring reading course. It was very evident that the reading course had been strengthened. This is an indication that the evaluation and feedback procedures developed by the Resource Coordinating Center were utilized in planning the spring reading course.

Recruitment for the spring reading course was low-key, because so many teachers in our region wanted to take this course. A total of sixty-five participants were recruited at the three sites for the spring reading course. Five participants at Johnson City, seven participants at Coalfield and one participant at LaFollette elected to receive credit from East Tennessee State University.

Although implementing AESP in Tennessee was a hectic process during the summer of 1974, by the spring of 1975 the procedures had been refined and modified and the implementation of the courses was a routine matter. The project has had a major impact at the three participating RESAs and throughout the state of Tennessee. The Tennessee State Department of Education decided to broadcast the reading tapes developed through the satellite project statewide during the spring of 1975. This was part of a statewide effort to improve the quality of reading instruction for classroom teachers. These tapes will be rebroadcast during the fall of 1975 as a part of a statewide in-service education program. Another indication of the quality of the satellite project is the positive comments of teachers who participated in the program.

Phase III of the satellite project has enabled educators to demonstrate the feasibility of some of the things that can be done through the use of 20th century technology. However, the project has only scratched the surface of what can be accomplished. The Appalachian Educational Satellite Project has been the forerunner of the use of satellite technology in the field of education. The results of our efforts through the project during the past two years and in the coming years may well shape the use of satellites in the field of education.

SPECIFIC TASKS

(1) COLLEGE CREDIT:

Participants in the project had the options of receiving college credit for the courses from the University of Kentucky or one of two local universities, The University of Tennessee and East Tennessee State University. East Tennessee State University offered college credit for the reading courses and the University of Tennessee offered credit for the career education courses.

Participants utilized all three options for credit. The majority of the students elected to receive credit from the University of Kentucky. Approximately 12 students from all 3 sites enrolled for credit at East Tennessee State University for the reading courses. In the career education courses, approximately nine students received credit from the University of Tennessee.

(2) TEACHER SELECTION AND RECRUITMENT:

The ATS-6 RESA Advisory Committee guided the developmental efforts of the project. The Advisory Committee developed the teacher selection and recruitment plan. The committee designed a fact sheet for the summer courses and recommended that this information be sent to all elementary teachers. Each RESA utilized a different technique in recruiting participants for the summer courses.

The Tennessee Appalachian Educational Cooperative used the fact sheet developed by the committee to inform teachers of the project. The site coordinator also made presentations at key schools in the RESA site coordinator also made presentations to the faculty of several schools. This was done several weeks before the actual courses started. The site coordinator then recruited the rest of the participants from the school systems nearest the instructional site. This modification in the basic recruiting procedure enabled this Cooperative to have a full class for the last two courses offered through the satellite project.

The Clinch-Powell Educational Cooperative utilized its newsletter, the Challenge, to disseminate information about the program. The project director also made presentations to teachers in all of the counties that compose the Clinch-Powell Educational Cooperative. The director also worked with supervisors and superintendents in each of the four counties in securing a list of names of teachers who could benefit from being participants in this project. Although we had our quota of 40 people registered to take the courses during the summer, many of these people did not show up on the first day of class. With the aid and assistance of local school officials, and participants in the course, we were able to recruit additional people to take the two courses offered during the summer. Thirty-nine participants at the LaFollette site finished the two courses during the summer session. The Clinch-Powell Educational Cooperative experienced no recruitment problems for the remaining two courses. We were forced to turn people away because there was so much interest in taking the courses.

Recruiting participants for the project was a frustrating task during the early days of the project. This was probably due to the innovative nature of the AESP and because many of the teachers wanted to take a minimum of 12 quarter hours during the summer. Many of the teachers who would have taken the courses were therefore forced to attend regular summer school sessions in order to get the number of hours that they needed for certification. However, no recruitment problems were encountered after the summer session. After the participants spread the word about the quality of the courses being offered through the project, teachers began to call the site coordinators and request to take the courses. This action on the part of the teachers is an indication of the quality of courses that were being offered through the satellite project.

(3) ADMINISTRATIVE STRUCTURE:

The ATS-6 ARC RESA Triangle involves: A. The Clinch-Powell Educational Cooperative is the lead RESA with administrative and physical responsibility for the project. B. The Tennessee Appalachian Educational Cooperative and the Upper East Tennessee Educational Cooperative are ancillary RESAs. C. The advisory council is composed of 10 voting members. Three voting members are selected by each RESA. The tenth member is an employee of the Tennessee State Department of Education. The project director serves as the secretary to the advisory council, with no voting power. D. The RCC Board of Directors membership from Tennessee is composed of four persons: (1) Tennessee State Department of Education Assistant Commissioner selected with agreement among the three RESAs. (2) One member selected by the Clinch-Powell Educational Cooperative, one member selected by the Tennessee Appalachian Educational Cooperative and one member selected by the Upper East Tennessee Educational Cooperative.

The administrative structure for administering the program in Tennessee area concerning the project. This Cooperative experienced no difficulties in recruiting participants for the summer courses and had both classes full by the end of June.

Despite the isolated location of Coalfield, the teacher instruction site for the Tennessee Appalachian Educational Cooperative, recruitment for the fall and spring courses was no major obstacle. A total of 80 teachers were recruited for courses at the Coalfield site. Seventy-six teachers actually completed the course.

The Upper East Tennessee Educational Cooperative experienced major difficulties in recruiting teachers for the summer project. This Cooperative attempted to recruit participants from each of the 11 school systems that compose the Cooperative. This approach was utilized in order to maximize the educational benefits of the courses offered through the satellite project. Forty teachers were enrolled for the satellite courses for the summer, however, many of these teachers did not show up on the opening day of class. Intensive recruiting during the first week of courses brought the site up to par in enrollment. A high dropout occurred in the career education class because of technical difficulties at the site. The site was supposed to be operational the last of June, however, it was actually July the 18th before the first career education broadcast was received. Many of the teachers became discouraged and dropped the course.

The recruitment plans for the fall and spring courses were modified at this Cooperative. Information concerning the fall and spring courses offered at the Johnson City site was sent to all of the school systems that compose the Upper East Tennessee Educational Cooperative. The has proven to be an effective structure. The Advisory Council has met and served as an advisory group to the project. Each of the three participating RESAs has carried out their responsibilities.

(4) LOCAL RESA INPUT INTO RCC:

Local RESA input into the Resource Coordinating Center at the University of Kentucky has been primarily in the area of Program Development. The cooperating faculty members were satisfied that the Resource Coordinating Center was taking their recommendations into consideration when planning the courses for the project. The site coordinators, at the request of the RCC, surveyed a number of teachers in the area of reading and career education, who would be willing to appear in the program segments. Several of these teachers were selected by the RCC to appear in the videotape portion of the program. One guidance counselor appeared on a seminar in career education and one of our consulting faculty members appeared in two of the reading seminars. The RCC has been responsive to input from the project personnel.

(5) SITE LOCATIONS

The classroom instructional sites were selected by each individual RESA based on their needs. The Clinch-Powell Educational Cooperative selected LaFollette High School for their teacher instruction site. Coalfield High School was chosen by the Tennessee Appalachian Educational Cooperative and the Upper East Tennessee Educational Cooperative selected the Education Building at East Tennessee State University for their teacher instruction site. Administrative personnel at all three teacher instruction sites were very cooperative and helpful in implementing the project. School officials at each site have agreed to leave our equipment in place and let us use the facilities again when additional courses are provided.

(6) CLASSROOM STORAGE AND CLASS ARRANGEMENTS:

Two of our teacher instruction sites had ideal locations, Johnson City and Coalfield. These two sites had access to small storage rooms adjacent to the classrooms. In addition, the Johnson City site was able to house all instructional materials at the instructional materials center at East Tennessee State University. The instructional materials center was located two floors below the instructional classroom, therefore, materials were readily accessible.

The LaFollette instructional site does not have access to a storage room adjacent to the classroom. However, two large storage cabinets were placed in the classroom for storage of project materials: The TWX and the VHF communications systems had to be placed in the classroom. However, the engineering component devised an extension cord so that the TV could be placed in an adjacent classroom during seminars so that the clatter from the TWX and the noise from the VHF system would not interrupt the participants as they viewed the TV. After the summer courses, the instructional materials were placed in the school library for teachers taking the course to use. Arrangements have been made with the school officials to utilize these rooms in the future.

(7) RESOURCE LIBRARIES:

Local resource libraries were established at all three teacher instruction sites. Triplicate copies were purchased of all materials that the RCC recommended be available at each site. Each RESA purchased additional materials during this fiscal year based on the request of the participants of the summer classes. Teachers and administrators have been extremely pleased with the materials located at each site, especially with the materials provided by the University of Kentucky for the participants.

(8) CONTINGENCY PLANS:

The RESA Triangle in Tennessee had two basic contingency plans in case of satellite failure. Video recording units were available at each of the instructional sites. In addition, the local educational TV station, Channel 2 in Knoxville, Tennessee, agreed to broadcast the videotapes. All three of the teacher instructional sites in Tennessee would be able to receive a TV broadcast from Channel 2. Two of the instructional sites in the DILENOWISCO Triangle would have been able to receive TV broadcasts from Channel 2 in Knoxville.

(9) RECORD KEEPING PROCESS:

Clinch-Powell is maintaining detail records of all phases of the project. Purchase orders are issued for every item ordered. Inventory cards are kept on all materials purchased through the project. Non-physical records are kept on all phases of the project. Records of correspondence to all agencies involved with the project are being maintained. Essentially, the records are filed under the appropriate agency and subdivided. For example, records pertaining to the career education component are filed under the heading: RCC - Career Education. This procedure enables us to retrieve information from our files in an organized and effective manner.

(10) RESA ADVISORY MEETINGS:

The ATS-6 ARC RESA Advisory Group in Tennessee met on a yearly basis because of the distances the members had to drive to meet at a central point in the region. The local RESA Advisory Group composed of 3 members from each of the Cooperatives met several times in an informal session to advise the local site coordinator on developing courses and the selection of teachers. These groups provided valuable assistance in guiding the developmental and implementation efforts of the project.

(11) LOCAL NEEDS IDENTIFICATION:

The need for improvement for teacher competencies in the areas of career education and reading have been documented on a national, state and local level. The need for additional training for teachers, particularly in the critical area of reading has been documented in our RESA triangle. The Tennessee State Legislature mandated a special reading program for the State of Tennessee during the fiscal year of 1975. Approximately 120 teachers participated in the reading courses in the satellite project. The State Department of Education through their statewide ETV network broadcasted the entire series of reading tapes for the K-3 program. These tapes will be broadcast statewide as a part of the preschool in-service program during the fall of 1975. The courses developed through the satellite project have enabled local teachers to improve their teaching competencies in these two critical areas - reading and career education.

(12) EVALUATION:

The ATS-6 Project has undergone an internal evaluation as an integral part of the programs offered by the Clinch-Powell Educational Cooperative. In addition, during the first year of operation, Dr. Nofflet Williams, Deputy Director, Appalachian Educational Satellite Project, University of Kentucky, made an on-site visit and sent us a written copy of his evaluation. During the second year of operation, Dr. Gus Root, an external evaluator working in connection with the satellite project at Syracuse University, made an on-site visit. A copy of his report concerning his visits to the participating RESAs was sent to the Appalachian Regional Commission. An informal evaluation of the effectiveness of the project can be documented through the many positive letters of support that the teachers sent to the site coordinators.

(13) WORKSHOP PLANS:

The workshops conducted by the RCC for project personnel were beneficial and have enabled the site coordinators to function effectively in the project. In addition, the site coordinators have held workshops in each of the RESA triangles in order to familiarize educators with the project. The highlight of the workshops was the press conference on the air.

(14) ADDITIONAL ASSIGNMENTS:

The project staff has attempted to meet all requests from the Appalachian Regional Commission and the Resource Coordinating Center at the University of Kentucky. We will continue our efforts to assist the Appalachian Regional Commission in continuing this project because education personnel and students in our area will benefit.

CHAUTAUQUA RESA

NEW YORK

The activity surrounding the past year of the Appalachian Education Satellite Project contained an energy and excitement not communicated by a written report. The dynamics of this Project brought together people, instruction, technology and equipment. A spirit of adventure and dedication pervaded the work of the past year, affecting the staff, the participants, and all visitors. Those involved were pioneers, of a sort, in a technology which reaches to the future. A report of the past year is a description of work accomplished. For the Appalachian Education Satellite Project, it describes a successful beginning.

The foregoing report describes the work performed in satisfaction of the Phase III tasks:

PHASE III TASKS –

1. Develop & demonstrate the instructional usefulness of all technical equipment such as the satellite broadcasting & receiving equipment, and teletype access to computer retrieval systems.
    a. Learn all operational aspects of the equipment.
    b. Train required personnel to use the equipment.
    c. Ensure that equipment is in good operational condition.
    d. Assess the instructional usefulness of the equipment.
2. Have available & develop additional materials that can be reused for the training of other teachers.
3. Expand knowledge base in career education and reading.
4. Demonstrate & document effectiveness of cooperating multi-state and multi-county educational programs sharing personnel and services.
5. Continue & expand upon the cooperative relationship between the AESP with local universities and other teacher accrediting agencies so that participants receive graduate and in-service credit for the courses.
6. Assist teachers in applying the principles and concepts that they have learned in their own classrooms.
7. Enable teachers who take the courses to encourage and train other teachers to apply the principles and procedures learned.
    a. Assist in organizing seminars, lectures, or meetings for this purpose.
    b. Obtain data to assess the success of these meetings.
    c. Document above participation.
8. Assist the staff development plans of local school districts relative to Project courses.
9. Encourage participating universities to expand their curriculum offering.
10. Encourage participating universities to accept courses developed & organized under the auspices of another university.
11. Encourage the participating universities to explore the possibility of a formal consortium composed of more than one resource coordinating center developing courses & software for use in a similar manner as in the AESP.
12. Monitor all local sites.
13. Review and approve reports of Consultants.
14. Develop and update periodically (as required by ARC Project Director) a long-range planning chart depicting all major events and the time frames in which they are to be accomplished.
15. Assist RCC in collecting all data necessary for course evaluation.
16. Continue efforts to maximize distribution of course software developed in the project.
17. Recruit 20 participants & 20 alternates for the Fall & Winter courses.
18. Carry out all other assignments specified by the ARC Project Director.

TASK 1

Develop & demonstrate the instructional usefulness of all technical equipment such as the satellite broadcasting & receiving equipment, and teletype access to computer retrieval systems.

a. Learn all operational aspects of the equipment.
b. Train required personnel to use the equipment.
c. Ensure that equipment is in good operational condition.
d. Assess the instructional usefulness of the equipment.

a. All site coordinators and assisting personnel were trained in the operation of equipment.

b. Carol Everett, Audry Boch and Carol Fink were trained to operate the teletype equipment during the seminars.

c. Weekly maintenance reports, the OMR cards, and monthly reports on parabolic adjustments and teletype use were submitted to ARC Engineering, Lexington. Equipment problems were reported in duplicate to Rob Shuman and Jessie McLaurin. The HP receivers at Fredonia, New York and Edinboro, Pennsylvania were replaced. Local staff technicians assisted Jim Freeman, ARC Engineering.

d. Student assessments of the instructional usefulness of the equipment were sent weekly to the Evaluation Component at the Resource Coordinating Center, Lexington, Kentucky. Equipment was available for course participants to use for both make-up work and review. Project staff was available to assist course participants in operation of the equipment.

At the completion of the Spring DPRI course, all equipment was fully operational.

TASK 2 **Have available & develop additional materials that can be reused for the training of other teachers.**

The resource materials available as a result of the AESP program have become an integral part of the collections in both reading and career education.

At Chautauqua BOCES the materials are available through the BOCES Media Center, Professional Preview Library. Materials are loaned for two week preview to enable teachers to try out new materials with their students and to assist them in selecting new materials for purchase by their local school district.

With the sponsorship of the BOCES Reading Coordinator, and assistance of the Reading Task Force, an annotated listing of reading materials was compiled as a catalogue. This catalogue was given to DPRI students. It was also distributed to the 18 school district libraries in the county.

Many teachers attended a series of Reading Material Workshops held weekly from February through April, 1975. During the workshops, commercial and teacher-made materials were described including the skills stressed, the contents, the strengths and limitations. Six of the teachers who gave workshops participated in the DPRI courses.

At Northwest Tri-County Intermediate Unit materials are available to project participants through the Instructional Materials Center. A supplement to the IMS catalogue listed all career education materials available through the center. These supplements were made available to project participants.

Computer based resource units on Career Education developed through project VAULT, AWAKE, and CARED grades K-12 are available for teachers wishing to implement career education in their classrooms.

Reading materials were available for teachers to preview through the examination center. Many teachers took the opportunity to borrow materials on a weekly basis to try in their classrooms.

The Wisconsin Design Comprehension and Study Skills teacher's resource files were purchased for teachers in both the summer and spring reading courses.

The Cattaraugus BOCES professional library collection includes the resource materials available as a result of the AESP programs. Teachers throughout the BOCES area have not only had access to these materials, but have, on a large scale, used them in their home school career education and reading programs.

An annotated bibliography of Career Education materials was developed and printed at the Chautauqua County BOCES and distributed to participants in both Career Education courses throughout the RESA, the 18 Chautauqua County school district libraries, and to the other RESA sites throughout the project.

See sections 3, 6, 7, 8 of this report for details on many specific programs that have or will further utilize AESP related materials.

TASK 3 **Expand knowledge base in career education and reading.**

This task is combined with the report of tasks 6, 7, and 8.

TASK 4 **Demonstrate & document effectiveness of cooperating multi-state & multi-county educational programs sharing personnel and services.**

Most of the cooperative programs that have arisen as a result of our participation in the AESP program have been subtle, and have evolved in such a way that already takes them for granted. On a grand scale, however, it should be noted that the AESP program provided a definite impetus in hastening the formation of the Appalachian BOCES Consortium which has already proven itself a revolutionary development in effecting major changes in the individual BOCES operation. Cost effective, and program-sharing benefits have evolved from the 10 BOCES consortium, most of these in the area of instructional technology, and career education.

Equally impressive have been the inroads that have been made throughout the Chautauqua RESA in identifying exemplary reading programs that have been subsequently shared. Programs in the Northwest Tri-County Intermediate Unit and the Chautauqua BOCES area have become familiar to the reading teachers and specialists in the Cattaraugus BOCES area, and new avenues of cooperation are constantly being explored. At the present time, for example, the Chautauqua and Cattaraugus BOCES are working in unison in developing a multi-county Right-To-Read project.

In like manner, the Cattaraugus BOCES has become involved in the development and implementation of various reading and career education programs in areas other than the RESA. Significantly, Cattaraugus BOCES' work with the neighboring Allegany County BOCES, and with districts in Northern Pennsylvania and Western New York have proven the effectiveness of the materials and expertise now available to Cattaraugus BOCES educators as the result of the AESP program.

Al Johnston, program specialist from Midwest Intermediate Unit No.4, visited the summer reading program in Edinboro. After meetings with project personnel and consultant Dr. John Connelly, SUC at Fredonia, a project was funded which enabled Intermediate Unit No.4 to purchase the tapes and software for the summer reading course. The project will be implemented in that Intermediate Unit during June, 1975.

Carol Hammar, Chautauqua BOCES Reading Coordinator, conducted a one day in-service program involving thirteen teachers in the PENNCREST school district on SARI (Systematic Approach to Reading Improvement). The district will pilot the program this fall in the Cambridge Springs Elementary school. Teachers in the same school district will pilot the Wisconsin Design materials in the Randolph-East Mead elementary school. Present plans are to develop a system-wide reading program based on the results of the pilot programs.

TASK 5

Continue & expand upon the cooperative relationship between the AESP with local universities and other teacher accrediting agencies so that participants receive graduate and in-service credit for the courses.

In addition to University of Kentucky credit inherently available to AESP course participants, credit was available locally from State University College at Fredonia, or St. Bonaventure University, Olean, New York.

Both participating universities, in addition to serving as accrediting institutions, provided input into course development and have continued participation through the joint recognition of each other's faculty as course monitors, and through the endorsement of future program plans.

St. Bonaventure University provided, as faculty advisors to the RESA sites, Dr. Peter T. Glofka (for both career education courses), and Dr. Paul J. Schafer, who assisted with the final DPRI course. Both Dr. Glofka and Dr. Schafer are affiliated with the St. Bonaventure University Education Department. Dr. John Connelly, State University College at Fredonia, served as faculty advisor for the summer DPRI course. Dr. Richard Gates, Dean, School of Education, St. Bonaventure University, regularly visited the Olean and Edinboro sites during the Spring DPRI course.

The faculty monitors assisted participants in fulfilling the course requirements during scheduled site visits, in grading participants for the University of Kentucky, and by submitting grades to the local institutions for persons who elected to receive local credit.

In Pennsylvania, we are continuing to keep the lines of communication between the local colleges and the Intermediate Unit open. Intermediate Unit staff and Edinboro College personnel are meeting on a regular basis for the purpose of promoting a cooperative relationship.

TASK 3 Expand knowledge base in career education and reading.

TASK 6 Assist teachers in applying the principles & concepts that they have learned in their own classrooms.

TASK 7 Enable teachers who take the courses to encourage and train other teachers to apply the principles & procedures learned.

- a. Assist in organizing seminars, lectures, or meetings for this purpose.
- b. Obtain data to assess the success of these meetings.
- c. Document above participation.

TASK 8 Assist staff development plans of local school districts relative to project courses.

Throughout the RESA Triangle area, Satellite Project staff have joined work with local BOCES and Intermediate Unit personnel to coordinate in-service and other related activities to enhance the knowledge offered to local teachers through the Satellite Project courses.

Northwest Tri-County Intermediate Unit
Intermediate Unit personnel have conducted workshops and in-service programs in 14 school districts. The extent of involvement ranged from individual assistance to teachers implementing career education programs to district wide or building in-service programs.

As part of their Right-To-Read effort, Wattsburg School District held a workshop on the implementation of the Wisconsin Design materials. Alice Martinson from RCC was the consultant for this program. Judy Kopin, Right-To-Read director in the Wattsburg School District was a participant in the summer reading course.

The Erie City School District is piloting the Wisconsin Design materials in St. Mary's school. This was a direct result of the participation of Mary Sebald and Mary Wiesin in the summer reading course.

Helen Friend, participant in the fall Career Education course, received a $215.00 mini grant from the Intermediate Unit to implement a career education project in her school. The project involved eighth grade students in making a 16mm film entitled "Work at School." Students interviewed and filmed approximately 20 persons about their jobs.

The Iroquois School District has initiated a program of Comprehensive Career Development K-12, and has received a Title III grant to assist in the implementation of the project. Marjorie McLean, participant in both the summer and fall Career Education courses, is coordinating the project. Intermediate Unit staff has assisted Mrs. McLean in the writing of the project as well as implementation.

Chautauqua BOCES
Chautauqua BOCES personnel have conducted workshops and in-service programs in both reading and career education in 14 of the 18 school districts of the County.

Mrs. Carol Hammar, Chautauqua BOCES Reading Coordinator, was responsible for the coordination of numerous activities relating to the AESP reading course and the teacher participants. Some of Mrs. Hammar's activities are outlined:

1. Coordination of Reading Material Workshops.
   Materials purchased and utilized under DPRI program.
   - 1.1 Barnell Loft Specific Skill
   - 1.2 Pictocabulary
   - 1.3 Target Series
   - 1.4 Wisconsin Design
   - 1.5 Fountain Valley

2. Annotating and publicizing of Reading Materials purchased under DPRI program.
    - 2.1 Chautauqua County Reading Materials Catalog
    - 2.2 Newsletter annotations
    - 2.3 Supplement to catalog

3. Consultant to Dr. Connelly's Fredonia Graduate Class
    - 3.1 Resource for materials
    - 3.2 Resource consultant to individual students (testing procedures interpretation,etc.)

4. Consultant to DPRI course students.

5. Consultant to Edinboro site for Reading In-Service training.

6. Communication person to Right-To-Read Coordinators throughout New York State
    - 6.1 Description of course
    - 6.2 Availability of course materials content

Falconer School District has used the Career Education videotapes, held Career Education Days, and conducted 10 hours of in-service for all teachers utilizing a specialist from a nearby university.

In Iroquois School District (BOCES No. 2, Erie County) William DeFreis, AESP participant, received a large Unigrant, which included $20,000 for Career Education materials. He also organized a dinner for the Association of Children with Learning Disabilities with Dr. Kenneth Hoyt as guest speaker on "Career Education for the Handicapped".

At Cassadaga Valley Central School District, one DPRI course participant has assumed responsibility of chief diagnostician for her teaching unit, testing each new child to determine placement.

In-service workshops showing combined use of 16mm films with filmstrip and cassette media packages by ACI company will be conducted during September throughout eight school districts in Chautauqua and Cattaraugus Counties.

Faculty Monitor, Dr. John Connelly, has used the DPRI course videotapes in his Diagnostic and Prescriptive Reading Course for non majors. Both St. Bonaventure and Fredonia State have requested copies of all course videotapes to use them in their graduate course offerings.

Many AESP course participants have initiated programs in their local districts which have multiplied the effects of techniques first learned during the Reading and Career Education courses.

Since Chautauqua BOCES does not have one person designated to assist local districts in Career Education In-service, the best evidence of career education programs by local districts is seen in the loaning of AESP materials to schools for use in In-service programs, Career Days, etc.

Substantial additions in both 16mm films and videotapes of films in Occupational Education will be the result of "Project 81", a grant to the Appalachian BOCES Consortium (ABC) (ten BOCES). The ABC will select titles for videotaping and the films will be mastered and distributed to all 10 BOCES on ¾-inch cassettes. The original 16mm films will be distributed among the 10 BOCES libraries.

Cattaraugus BOCES
As a direct outgrowth of the AESP programs the following career education programs and activities have been realized in the Cattaraugus BOCES area:

1. In addition to the several mini-sessions in career education that have emerged in virtually every district in the county, there have been three major county-wide career education conferences in the area that have been generated as the result of the AESP career education courses. The three are these:

Ellicottville	(Cattaraugus County Superintendent's Day Conference)
Gowanda	(Erie II BOCES Superintendent's Day Conference)
Franklinville	(Cattaraugus County Guidance Counselor's Association, Career Awareness Day)

Each of these sessions drew literally hundreds of teachers and/or students, and each was at least instigated by AESP course participants.

2. The activities of a full-time Cattaraugus BOCES employee (Curriculum Development Assistant) have been devoted almost exclusively to career education activities for the past several months. She has not only assisted in perpetuating career education programs, but has also encouraged others to begin and assisted still others in identifying objectives and locating materials.

3. The Cattaraugus BOCES has, because of AESP course-induced interest in career education, acquired literally hundreds of new career education titles in 16mm films, and videotape formats. Circulation records suggest that these titles are among the libraries' most popular. The Cattaraugus BOCES has also cooperated with numerous educators throughout the Western New York, Northwestern Pennsylvania area in establishing viable career education progr[illegible]nificant among these have been the following:

    Allegany County BOCES (Allegany County, New York)
    Seneca Highlands Intermediate Unit (Potter, McKean & Cameron Counties, Pennsylvania)
    Bradford Area High School (Bradford, Pennsylvania)
    Livingston County BOCES (Livingston County, New York)

The following activities taking place within the district involved many of our DPRI class participants:

Jan. 23	Prentice Hall Workshop. Demonstrations of new materials and techniques using The Talking Machine. Other reading instructional materials shown.
Mar. 12	Mrs. Phoebe Ties discussed learning disabilities and the slow learner. Thirteen of our class members attended and heard her explain characteristics of the slow child and some remediation activities to correct these developmental lags.
Apr. 17	High attendance of summer class DPRI students and Spring class at Dr. Zach Clements lecture, "Back to Basics", University of Vermont. This was a local Reading Association meeting in near-by Allegany County. Our class received special invitation.
Apr. 24	Six of our class members interested in conducting local inservice workshop in Reading attended a Bureau of Reading Orientation meeting. Good activities and information on In-Service Reading meeting conducted by Mrs. Carol Hammar, Fredonia BOCES, and Ms. Paula Rollins, Bureau of Reading, Albany.
May 15	Southern Tier Reading Association meeting. Annual banquet. John Connelly directed his address to the Satellite class. Spoke on Diagnostic/Prescriptive Reading, all phases. He included his experiences in the Right-To-Read Reading program at Sinclairville.
May 28	Several attended Language Master presentation at the Castle Inn. Different techniques shown in the use of this machine in the Reading Class Last part of the program discussed the Fountain Valley Reading Program.
May 30-31	"Insight Unlimited" workshop. A preventive and developmental program in learning for classroom teachers K-12. An intensive workshop in screening procedures; designing individual curriculum for training or therapy in the regular classroom; proper instruction in the use of different learning modulaties. Our students were especially interested in the planning and development of workshop procedures with parents, para-professionals, and classroom teachers.
June 6-7	Dr. Zach Clements—graduate course. High enrollment of our class members enlisted in Dr. Clements course "Humanizing Reading in the Classroom".

On the basis of information and methodology presented during the DPRI courses, teachers in the following districts (who were course participants), have established in-service sessions to enlighten other teachers and aides:

Limestone
Cattaraugus
Cuba
Portville
West Valley
Little Valley
Olean
Randolph

In each of these districts, structured, in-service sessions have been presented both for formal credit-bearing programs, and for less formal, workshop sessions. As a result, these schools are experiencing an improved rate of progress towards a total diagnostic/prescriptive reading program. In almost each instance, book vendors have participated, and in most, materials similar to those used in the summer sessions have been purchased.

The recently revitalized Southern Tier Reading Council (Cattaraugus County's chapter of the IRA) has devoted much of its program activity to an investigation of the summer course. Select video tapes have been previewed by various members, and course participants have addressed the Council.

The Cattaraugus County BOCES has added a full-time reading specialist to its staff, Jean Bretzin, because of the need identified through the DPRI course. It is her responsibility to serve as a resource person on the County level, and to encourage innovation and growth in reading programs at the building level. As a part of her assistance, she has vastly enlarged the BOCES' library of basal series and other demonstration copies of the best reading materials currently available. She is, in addition, the BOCES liason to the RCC for all matters dealing with the DPRI program.

The Cattaraugus County BOCES has also vastly expanded its media collection to reflect the anticipated needs of reading teachers in the county as the result of the DPRI courses. The BOCES film, multi-media kit, and videotape libraries have all been added to impressively. These materials are, of course, available to the nearly 1,500 teachers in the BOCES component school districts.

TASK 9	**Encourage participating universities to expand their curriculum offering.**
TASK 10	**Encourage participating universities to accept courses developed & organized under the auspices of another university.**

As a direct result of their participation in the AESP program, St. Bonaventure University has demonstrated a new and very viable commitment to the career education and reading course needs of its students. Faculty who have participated in the development and implementation of the actual AESP courses have further developed program material for their class use that reflects AESP influence. In addition, St. Bonaventure's Dean of the School of Education has formally requested access to AESP program tapes, and has indicated that they will become a part of the education program there.

The State University College at Fredonia (SUCF) is using the DPRI videotapes as the backbone of a diagnostic and prescriptive reading course. Dr. Joseph O'Connell (SUCF) has purchased a set of the Career Education course videotapes to be integrated into courses in methods and curriculum for pre-service teachers.

TASK 11	**Encourage the participating universities to explore the possibility of a formal consortium composed of more than one resource coordinating center developing courses & software for use in a similar manner as in the AESP.**

Declining enrollment in local higher education institutions has required that universities explore alternate means of encouraging students. The uses of a satellite for receiving courses, and the possibility of bringing college instruction into the home or community center are being explored as means of increasing student enrollments.

Reduced budgets have forced the colleges to cut back on curriculum offerings which are highly specialized (i.e. with low enrollment).

These reasons, and others, suggest that the concept of a university consortium may be educationally and economically beneficial and desirable. Such an arrangement may lead to the sharing of the best course offerings of several institutions. Letters of endorsement from the administrative heads of our local institutions (sent during March, 1975) indicate that they are very supportive of AESP and would like to see programs of this quality continue.

TASK 12

Monitor all local sites.

The AESP staff at Fredonia, Edinboro and Olean handled all administrative details of project implementation. Monitoring of the local sites during course broadcast was accomplished through phone conference calls and teletype links between Fredonia and the sites at Olean and Edinboro. Fredonia site had VHF radio communications with ARC Engineering before and during all broadcasts. The AESP—RESA Coordinator monitored local site work through frequent meetings and numerous phone contacts.

The AESP staff in the Chautauqua RESA Triangle during the past year follows:

Fredonia—	S. B. Bennett	AESP Project Coordinator Fredonia Site Coordinator
	C. A. Everett	AESP Project Secretary TTY Operator
Edinboro—	J. Williams	AESP Research Assistant Site Coordinator during Winter Career Ed. & Spring DPRI course
	S. Kompare	Site Coordinator at Edinboro during Summer '74 courses.
	A. Boch	Teletype Operator
Olean—	F. Grates	AESP Research Assistant Site Coordinator during Summer '74 courses and Fall Career Education course
	J. Bretzin	Site Coordinator during Spring DPRI course
	C. Fink	Teletype Operator

TASK 13

Review and approve reports of Consultants.

There were no consultants hired during 1974-75.

TASK 14

Develop and update periodically (as required by ARC Project Director) a long-range planning chart depicting all major events and the time frames in which they are to be accomplished.

See reports submitted throughout the past year.

TASK 15 **Assist RCC in collecting all data necessary for course evaluation.**

Evaluation materials on the course content were sent to RCC weekly. Evaluation covered all technical and content aspects of the courses. The instruments administered to course participants were:

- Pre-Test
- Attitude Questionnaire
- Background Questionnaire
- Unit Tests
- Class Rating Form
- Information Systems Questionnaire
- Television Quality of Reception Questionnaire
- Four-Channel Audio Questionnaire
- Laboratory Activities Questionnaire
- Instructor Feedback Questionnaire
- Summative Comments Form
- Post-Test

The Site Coordinator completed the following evaluation instruments:

Site Coordinator's Checklist (for each class meeting) & Summative Comments Form

Optical Mark Read (OMR) cards were sent to ARC-Engineering weekly and malfunction reports were sent in to document equipment failure situations.

In addition to these, assistance was given to RCC in distributing and collecting a follow-up study to the summer courses.

Other forms of evaluation included arranging for script reviewers, on-site visitations and soliciting comments, both written and verbal from course participants.

TASK 16 **Continue efforts to maximize distribution of course software developed in the Project.**

Distribution of the course software or videotapes will be handled by the local BOCES and Intermediate Unit Instructional Materials Centers.

The Eastern Educational Network has been requested to preview the two AESP courses. ARC is continuing the follow-up of this method of distribution.

Information regarding the obtaining of the videotapes and accompanying materials will be disseminated throughout the Chautauqua RESA Triangle via direct mailing.

State-wide dissemination will be accomplished through the Intermediate Unit newsletters, the BOCES newsletters, presentations and displays at meetings and conferences.

Orders for purchase of the videotapes are to be sent to the Appalachian Regional Commission. Accompanying materials are to be purchased from the University of Kentucky.

TASK 17 **Recruit 20 participants & 20 alternates for the Fall & Winter courses.**

For both the Fall and Winter courses, a total of 120 participants and 20 alternates were recruited.

A complete look at the number of persons completing each of the four AESP courses in the Chautauqua RESA Triangle is given in the table below:

	SUMMER		FALL	WINTER
	D.P.R.I	C. Ed.-K-6	C.Ed. 7-12	D.P.R.I.
Fredonia	20	20	18	20
Edinboro	20	17	20	15
Olean	20	17	21	20

TASK 18 **Carry out all other assignments specified by the ARC Project Director.**

Other assignments specified by the ARC Project Director have been:

(1) The Library Science Needs Assessment conducted in 18 high schools in the RESA Triangle area.

(2) Contacting congressional representatives, senators, and State Education Deaprtment officials to keep them informed about the AESP.

(3) Arranging meetings for evaluation teams and other official visitors to the AESP sites.

DILENOWISCO EDUCATIONAL COOPERATIVE

VIRGINIA

Task 1. The instructional usefulness of the technical equipment was demonstrated by the successful completion of the project courses by the project participants with a high level of achievement as indicated by their grades.

a) The RESA Project Director learned all operational aspects of the equipment and experienced no difficulty throughout the project in operating the equipment.

b) The RESA Project Director trained the required personnel (Site Coordinator, and Teletype operator) in the operation of the equipment required. No difficulty was experienced by the site personnel in the operation of project equipment.

c) The project equipment was installed and checked out by the appropriate manufacturer and/or project engineers. The equipment installed in the DILENOWISCO RESA triangle were double checked by the project director and found to be in good operating condition. The equipment functioned exceptionally well throughout the duration of Phase III. No major operational difficulties were experienced.

d) According to the course participants, advisory committee members and others, the integrated use of Television, Teletype, two way audio four channel audio and the computer-based information retrieval system contributed significantly to the success of the course.

Task 2. An instructional resource library was developed for the use of course participants. The library was utilized by participants during and after their completion of the course. The library contains both professional and student materials. A library was maintained at each site to facilitate the utilization of these materials by the paticipants.

The course broadcasts were video taped at each site and are being made available to participating school division for the training (inservice education) of other teachers who did not participate in the courses.

Additional materials were purchased to add to the resource library based on the recommendations of the course participants and the advisory committee. Materials developed by the course participants were duplicated and catalogued into the resource library. All materials will be available for future use by project personnel and the local school divisions in conducting inservice training programs and providing support to teachers in implementing Career Education and Diagnostic Prescriptive Reading techniques into the classroom setting.

Task 3. The knowledge base in Career Education and Diagnostic Prescriptive Reading was expanded through the cooperative research and development efforts of the total Appalachian Education Satellite Project staff in preparing the course offerings. The local knowledge base in these two areas was expanded by recruiting course participants who had little or no expertise in these areas and who would therefore benefit the most from the program.

Task 4.

The effectiveness of the cooperation with multi-state and multi-county educational programs sharing personnel and services can best be demonstrated by: (1) The fact that the DILENOWISCO Educational Cooperative in Norton, Virginia and the Northwest Regional Education Center in North Wilkesboro, North Carolina effectively shared personnel, materials and expertise in all phases of the project. The regional media delivery services, funded locally and by other programs, provided their services in the delivery and retrieval of library materials. (2) The Advisory Committees were composed of representatives from the state agencies and the school divisions. These individuals cooperated by reviewing program materials and attending advisory council meetings without cost to the project other then travel. (3) The assistance provided in the recruitment of course participants. and (4) The local education agencies providing the project with site facilities without charge.

Task 5. The cooperative relationships between Appalachian Education Satellite Program, local universities and other teacher accrediting agencies was continued throughout Phase III. Faculty members of the universities provided consultative services to the project and to course participants at little or no cost to the project. These services included active membership on the advisory council and the review of program materials to assist the University of Kentucky in developing high quality programs.

Task 6. The project staff and faculty consultants provided assistance to the teacher participants in the application of the principles and concepts learned in their own classrooms upon request by the teacher. Another of the methods used in accomplishing this task was to utilize the regional media delivery system in delivering project resource materials to teachers on their request. Each teacher who participated in the Appalachian Education Satellite Project courses received a catalog of materials and services available to them as participants in the project to use as a tool for selecting instructional media appropriate to their needs.

Task 7. The teachers who participated in the Appalachian Educational Satellite Project courses were encouraged to share with their colleagues the principles and procedures learned during the courses. The teachers were urged to share their materials (library and course) with fellow teachers. All resources acquired through the project (video tapes, library materials, etc.) were and are available for this use. A few participants did conduct formal inservice training sessions, but not to the extent that would be desirable. Inservice meetings were also conducted by the project staff on a small group basis. Because of the large amount of professional activities required by the local school divisions the past year the opportunity for this type of activity was somewhat limited. It is anticipated and planned that activities of this nature will increase significantly in the 1975-76 school year.

Task 8. The local school divisions are required by the Virginia Standard of Quality of Education to implement Career Education and Diagnostic Prescriptive teaching into the curriculum. The project staff worked closely with each school division's central office in the development of the course offerings. It was determined by the school administration that the courses offered would be of significant benefit in carrying out the staff development activities planned in each school division. Each superintendent pledged their full support of the project and its courses.

Task 9. The expansion of participating universities curriculum offerings is evidenced by the fact that tuition free credit was offered by these universities and that each university desired a complete set of the course materials for review and classroom trial.

The University of Virginia prior to Appalachian Education Satellite Project had not offered specific courses in the field of Career Education other than the traditional guidance and vocational education courses. Virginia Commonwealth University is in the process of developing courses in the field of Career Education and plans to utilize Appalachian Education Satellite Project material in this endeavor.

Task 10. The acceptance of the courses developed during the project is evidenced by the fact that Virginia Commonwealth University, the University of Virginia and Appalachian State University offered full credit to participate. They also offered credit without regard to state lines and/or site location.

Task 11. The topic of developing additional Resource Coordinating Centers and working together in consortium was discussed with the participating Universities. The University of Virginia and Virginia Commonwealth University both expressed a high degree of interest in forming a consortium and serving as Resource Coordinating Centers.

Task 12. All local sites were monitored on routine basis through site visitation during class sessions and through routine use of the telephone.

Task 13. The RESA project director reviewed and approved all consultant reports.

Task 14. Data for the Resource Coordinating Centers to use in course evaluation was collected routinely according to the Resource Coordinating Center Evaluation design.

Task 15. Distribution of the course soft ware developed by the project is being accomplished through the use of the Regional Media Delivery services which visits each school a minimum of once a week.

To enhance the possibilities for distribution of course materials the project staff has made presentations; at state conferences (Virginia and North Carolina), to State Departments of Education, and to participating universities. These presentations involved the showing of sample video course tapes, distribution of promotional brochures, and the distribution of sample lesson packets.

Task 16. Twenty participants with alternates were recruited for the Fall and Winter courses by the project staff with the assistance of local RESA personnel.

Task 17. All other assignments specified by the Appalachian Regional Commission Project Director were carried out by the local staff. This task activity involved conducting additional needs assesments, gathering data and assisting in the preparation of funding proposals, attending planning and project meetings, and providing local assistance in developing contingency program delivery methods.

IV. PROJECT ACCOMPLISHMENTS AND IMPACT

IV. PROJECT ACCOMPLISHMENTS AND IMPACT

Previous sections of this report have made reference to a series of twelve Technical Reports that are being developed by the evaluation team at the RCC. These reports carefully list and explore the ramifications of the AESP. However, some of the more obvious project accomplishments can be reviewed here.

1. Twelve hundred (1200) teachers in Appalachia have completed in-service courses provided by the AESP.

2. These courses were graduate credit courses with 14 institutions of higher education in Appalachia participating as credit granting institutions.

3. A sophisticated satellite communication network has been established which includes:

    - Fifteen (15) receiving sites in Appalachia equipped with TV receivers, 4-channel audio equipment, teletype intercommunications, libraries, and special instructional materials with trained satellite communicators at all 15 sites
    - Two (2) of the most powerful communication satellite existing: ATS-6, and ATS-3
    - Two (2) satellite uplink stations located in Denver, Colorado and Rosman, North Carolina
    - Two (2) network Coordination Centers located in Denver, Colorado and Lexington, Kentucky.
    - Agreements with Central PBS and local PBS Stations to provide, where and when available, an extensive terrestrial backup.

4. A Resource Coordinating Center has been established where four (4) graduate credit courses have been developed which included extensive auxiliary materials with a highly imaginative computer support activity.

5. A video production and satellite broadcast center has been established at the Resource Coordinating Center in Lexington, Kentucky. This Center has produced over 64 hours of video broadcast via ATS-6 and over 720 hours data/voice transmission via ATS-3.

6. The video programs produced for broadcast have been of such a quality that the State of Tennessee has contracted for their use. The State Departments of Maryland, Virginia, New York and North Carolina have also indicated their specific interest in the same.

7. PBS has shown interest in AESP produced video tapes with PBS/KETV now broadcasting AESP produced material.

8. Special regional demonstrations utilizing the satellite communication network have been successful and in the process proving to be highly effective in the regional exchange of information.

9. In-service programs previously unavailable in many parts of Appalachia are now available.

10. There is a nucleus of trained teachers that can work with RESA's to provide similar experiences for their colleagues and this training was a direct result of the AESP.

11. Extensive data have been compiled and now is being analyzed (see technical reports) in order to assist others in their attempts with similar projects.

12. A dissemination office has been established and has already processed numerous requests for the courseware developed during the AESP.

It is difficult to fully assess the impact of the AESP at the present time; however, some preliminary conclusions can be stated. Most of these conclusions are based on feedback from the NIE evaluation which, as noted previously, included an outside evaluation by the Education Policy Research Center, Syracuse University. Other conclusions are based on data collected throughout the program by the project's evaluation component and on data gathered by expert consultants appointed by the project director.

Two points, that are now clear are that the teacher response has been overwhelmingly favorable and that there has been a high degree of the classroom use of the concepts taught during the program, both in Reading and Career Education. To a large degree, this application of the knowledge garnered during the program is based upon support the teachers have received from their schools during their participation. However, it should be noted that the teachers perceived the courses as being "most relevant and useful" for the "real" classroom situation. In many instances, participants organized small groups in their schools to present and discuss the material covered during the program. Thus, it appears that the broadening of the initial knowledge base in the teaching of reading and career education throughout the participating areas has begun.

In terms of the effectiveness of the media, initial response to the seemingly complex equipment was surprisingly favorable; however, there was anxiety on the part of some teachers who were totally unfamiliar with much of the equipment. This "fear" of technology was quickly dissipated and a wide, general acceptance of satellite telecommunication technology now exists.

Institutionally, the impact of AESP is much more difficult to document, yet the following observation may be made.

Some of the RESAs have utilized the AESP as a major stepping stone in their long-range goals for an educational telecommunications system for their communities. This local telecommunication network is seen as having a strong influence on the local community in the future through community educational programs.

The AESP has achieved a major goal of facilitating the sharing of materials and expertise between several heretofore separate entities within the educational system. The participating RESAs have begun cooperative programs that now act across counties, as well as, state boundaries. Institutions of higher education have provided tuition free credit to participants in the AESP, when the courseware was not developed by these institutions, and when, in some cases, the content of this courseware may not have been a traditional area of interest for the institution. It should also be noted that the standards for successful performance in the AESP programs were not set by these institutions. In effect, for the first time in the Region, a major group of diverse educational institutions (diverse both geographically and philosphically) are cooperating together in order to offer educational services to the widely dispersed residents of the Region.

Finally, when the AESP began operations in 1973, there was no national policy on satellite communications. The AESP, along with the other [illegible] experiments, has kindled a major governmental discussion in an effort to effect a national policy dealing with telecommunications and, more specifically, satellite communications. This government consensus should point the way toward future efforts similar to AESP.

V. FUTURE DEVELOPMENT AREAS

V. Future Development Areas

As the present experiment moves toward its conclusion, it is apparent that there are adequate data to indicate a desire on the part of the institutions of the region to continue and expand the educational services now provided via the satellite. The Federal Government's position indicates that satellite technology has the support of the Federal Government and that a Federal policy is emerging favorable to the participation of funding agencies and the encouragement of private industries involved in satellite programs.

Realizing that policy formulation does not take place in a vacuum, this section will outline, to date, the major areas of development concerned with satellite telecommunication activities.

Applications Technology Satellite - ATS-6

The current HET experiments, which includes the AESP, have now been terminated and the ATS-6 satellite has been moved from the Western Hemisphere to Central Africa for the Indian Satellite Television Experiment (SITE) and the Apollo Soyuz mission.

ATS-6 is scheduled to return to the Western Hemisphere in the summer of 1976. At this time, ATS-6 is expected to have at least three additional years operating life. NASA has received formal requests in the name of the current HET experiments for use of the satellite during this time.

The Cooperative Technology Satellite - CTS

This satellite involves a cooperative effort between the United States and Canada. The satellite is now scheduled for launch in December of 1975 with the satellite being available for experiments by April 11, 1976.

The CTS satellite has been suggested by NASA as a follow-on for the HET experimenters with the AESP being conditionally accepted as an educational experiment depending on the availability of funding.

The CTS poses some difficulties to the current HET experiments because of the difference between the CTS and ATS frequencies. (i.e. $12GH_z$ vs. $2.5GH_z$). If the AESP would intend to participate, this difference will require modification of ground terminals now in place for the ATS satellite. The Westinghouse Corporation has developed a prototype cenvertor which could modify the ground terrestrial making their compatibility to both satellite frequencies. The AESP staff is now reviewing this option.

Public Service Satellite Consortium (PSSC)

The consortium is composed of a wide variety of potential users and potential providers of satellite-based telecommunication services both in the public and private section. The purpose of the group is to estimate the demand for satellite-based telecommunication services and to ascertain the technical, financial and organizations options available to meet this demand. An interim steering committee, chaired by former Governor H. Rex Lee, includes the representatives of the current satellite experimenters and in particular, the AESP.

In the near term, the PSSC appears to be playing the lead role involved in securing temporary or permanent provision of satellite-based communication services for the public sector. Some of the options that the PSSC is now exploring include proposals by Hughes Aircraft, RCA, Western Union, Fairchild Industries and other potential satellite service providers In addition, the PSSC has been developing a projected user traffic model to determine the immediate national demand for such services.

Interagency Committee to Coordinate New Communication Satellite Technology Applications

The interagency committee was established as a mechanism to coordinate Federal support of the effort to provide a commercial follow-on to the HET experiments on an operational basis. As stated in a memorandum by John Eger, Acting Director of OTP: "This committee would coordinate an analysis of potential Federal uses of a high power communication satellite service and investigate sources of Federal technical and financial support for the initiation of such a service." A meeting on January 29, 1975 was held to convene such a committee with attendes from the following Federal agencies:

The National Science Foundation

Housing and Urban Development

National Aeronautics & Space Administration

Health, Education, and Welfare

Department of Commerce

Veterans Administration

Department of Justice

One problem faced by this committee will be whether it can be organized and functioning in time to impact the future of the present users of satellite communication services.

In summation, as one may have discerned from the foregoing information, the Appalachian project, together with the satellite projects in Alaska and Rocky Mountains, has generated a ground swell of a favorable public opinion. The effect of this may, in the near future, culminate in a substantial Federal allocation towards continued satellite services to remote areas such as Appalachia. In response, the Appalachian Regional Commission should.be again, prepared to provide the leadership to address this situation for the benefit of the Appalachian people.